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New York State Museum

FREDERICK J. H. MERRILL Director

Bulletin 66

MISCELLANEOUS 2

INDEX TO PUBLICATIONS
OF THE
NEW YORK STATE NATURAL HISTORY SURVEY
AND
NEW YORK STATE MUSEUM
1837-1902

ALSO INCLUDING OTHER NEW YORK PUBLICATIONS ON RELATED SUBJECTS

BY
MARY ELLIS
Indexer University of the State of New York

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University of the State of New York

New York State Museum

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Bulletin 66

MISCELLANEOUS 2

INDEX TO PUBLICATIONS

OF THE

NEW YORK STATE NATURAL HISTORY SURVEY

AND

NEW YORK STATE MUSEUM

1837-1902

PREFACE

The New York State Museum was established at the time of the final arrangement of the collections of the Natural History Survey of New York in 1843. An act of the Legislature placing the collections in the custody of the Regents of the University was passed May 10, 1845, and the first official report was published in 1848. In 1870 a law was passed establishing the museum on a permanent basis. Till 1871 the museum was styled the State Cabinet of Natural History and appears thus on the titlepages of the early reports. For a description of the Natural History Survey of New York and the origin of the State Museum, *see* Museum bulletin 19, p. 240-45, Museum bulletin 56, p. 5-10, University handbook 5, *also* Subject index under Natural History Survey, p. 442.

The publications indexed are those of the New York State Museum from 1848-1902 inclusive; also the annual reports of the early Natural History Survey, 1837-41; the final quarto reports constituting the *Natural History of New York* published 1842-94; papers on geology and entomology in the transactions of the

New York State Agricultural Society, of the Albany Institute and in Regents reports; and entomological papers in reports of the Forest, Fish and Game Commission. Publications which will bear an imprint date later than 1902 are referred to as *In press*, or *In preparation*, and are not fully indexed.

The later museum reports have two sets of paging, the first being distinguished by the letter r prefixed to page numbers of the director's report. Dates covered by a report are in curves, followed by dates of publication. Volume and page numbers are separated by a colon; e. g. 3:141 means volume 3, page 141.

For explanatory matter referring particularly to the subject index, *see* p. 304.

In the preparation of this bulletin, the indexer has received invaluable assistance from the State Museum staff, to whom cordial acknowledgments are made.

MARY ELLIS

ABBREVIATIONS

New York State Museum. Publications. 1848-1902.	
Reports	Mus. rep.
Bulletins	Mus. bul.
Memoirs	Mus. mem.
Geologist's reports	Geol. rep.
Paleontologist's reports	Pal. rep.
Entomologist's reports	Ent. rep.
Botanist's reports	Bot. rep.
Natural History Survey. Annual reports. 1837-41.	
Mineralogy	Min. rep.
Geology	Geol. rep. 1st dist.
	" 2d "
	" 3d "
	" 4th "
Paleontology	Pal. rep.
Natural History of New York. Final reports. 1842-94.	
Zoology	Zool. N. Y.
Botany	Bot. N. Y.
Mineralogy	Min. N. Y.
Geology	Geol. N. Y.
Agriculture	Ag. N. Y.
Paleontology	Pal. N. Y.
Illustrations of Devonian Fossils	Ill. Dev. Foss.
New York State Agricultural Society. Transactions.	Ag. Soc. Trans.
Albany Institute. Transactions	Alb. Inst. Trans.

LIST OF PUBLICATIONS

Any of the University publications will be sold in lots of 10 or more at 20% discount. When sale copies are exhausted, the price for the few reserve copies is advanced to that charged by secondhand booksellers to limit their distribution to cases of special need. Such prices are inclosed in brackets.

All publications are in paper covers, unless binding is specified.

Museum annual reports for 1847-1900. 1848-1902.

Price for all in print to 1892, 50 cents a volume, 75 cents in cloth; 1892-date, 75 cents, cloth.

These reports are made up of the reports of the director, geologist, paleontologist, botanist and entomologist, and museum bulletins and memoirs, issued as advance sections of the reports.

1 (for 1847) 1848. 33+39+15 p. O.

Contents: Report of Chancellor, p. 3-4; Account, p. 5; Donations 1847, p.6; Catalogue of Mammalia and Birds Ap. 11, 1818, p.7-20; Beck, L. C. Catalogue of Specimens in the Mineralogical Department of the Geological Survey, p.21-33; Hall, James. Catalogue of Specimens in the Geological Department of the Geological Survey, 39p.; Hall, James. Catalogue of Specimens in the Palaeontological Department of the Geological Survey, 15p.

2 (for 1848) 1849. 91 p. 5 pl. (lith.) O.

Contents: Report of Chancellor, p. 9-12; Account, p. 13-14; Catalogue of Quadrupeds, Birds, Reptiles, Fishes etc. added Ap. 11, 1848 to Jan. 1, 1849, p.15-23; Fitch, Asa. Catalogue of Insects Dec. 1, 1848, p.25-39; Torrey, John. Catalogue of Plants of the State of New York, of which Specimens are preserved in the Cabinet at Albany, p.41-64; List of Minerals, Geological Specimens and Fossils added 1847 and 1848, p.65-70; Catalogue of the historical and antiquarian collection, p.71-79; Morgan, L. H. Communications from, p. 81-91; Ground Plans and Dimensions of Several Trench Inclosures in Western New York or Fort Hills, 5 pl.

[a]3 (for 1849) 1850. 175 p. illus. 28 pl. (lith.) O.

Contents: Report of Chancellor, p. 9-12; Account, p. 14-16; Catalogue of Quadrupeds, Birds, Reptiles, Amphibians, Fishes etc. added Jan. 1, 1849 to Jan. 1, 1850, p.17-26; List of Minerals, Geological Specimens and Fossils added Jan. 1, 1849 to Jan. 1, 1850, p.27-46; Additions to the Historical and Antiquarian Collection, Jan. 1, 1849 to Jan. 1, 1850, p.47-60; Catalogue of Reptiles and Amphibians Jan. 1, 1850, p.61-64; Morgan, L. H. Report upon Articles Furnished the Indian Collection, p.65-97, 18 pl.; Hough, F. B. Ancient Remains of Art in Jefferson and St

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[a] A preliminary edition of 97 p. was also issued.

Lawrence Counties, p.99-105, 5 pl.; Beck, L. C. Mineralogy of New York, p.107-51; References to Essays and Writings on the Natural History of New York, p.153-56; Index to Volumes in the State Cabinet containing the Plants of New York, p.157-66; Hall, James. New Species of Fossils from the Trenton Limestones, p.167-75. 5 pl.

3 *rev. ed.* (for 1849) 1850. 183p. 28 pl. (lith.) O.

Contents: Report of Chancellor, p.9-12; Catalogue of Quadrupeds, Birds, Reptiles, Amphibians, Fishes etc. added Jan. 1, 1849 to Jan. 1, 1850, p.15-24; Catalogue of Reptiles and Amphibians Jan. 1, 1850, p.25-28; List of Minerals, Geological Specimens and Fossils added Jan. 1, 1849 to Jan. 1, 1850, p.29-48; Additions to the Historical and Antiquarian Collection Jan. 1, 1849 to Jan. 1, 1850, p.49-62; Morgan, L. H. Report upon Articles Furnished to the Indian Collection, p.63-95. 18pl.; Hough, F. B. Ancient Remains of Art in Jefferson and St Lawrence Counties, p. 99-105. 5 pl.; Beck, L. C. Mineralogy of New York, p. 109-53; References to Essays and Writings on the Natural History of New York, p.155-60; Index to Volumes in the State Cabinet containing the Plants of New York, p.161-72; Hall, James. New Species of Fossils from the Trenton Limestones, p. 173-83. 5 pl.

4 (for 1850) 1851. 146 p. illus. 5 pl. (lith.) O.

Contents: Report of Chancellor, p. 9-12; Account, p. 14-16; Catalogue of Quadrupeds, Birds, Reptiles, Amphibians etc. added Jan. 1, 1850 to Jan. 1, 1851, p.17-41; Fitch, Asa. Catalogue of Insects collected and arranged, p.43-69; Botany, p.71; List of Minerals, Geological Specimens and Fossils added Jan. 1, 1850 to Jan. 1, 1851, p.73-90; Additions to the Historical and Antiquarian Collection Jan. 1, 1850 to Jan. 1, 1851, p.91-101; Hough, F. B. Notices of Ancient Remains of Art in Jefferson and St Lawrence Counties, p.103-9. 5 pl.; Salisbury, J. H. Analysis of a Specimen of Hematitic Iron Ore, p.111; References to various Writings relating to the Natural History of New York that have appeared during the Year, p.113-16; Hall, James. Catalogue of Specimens of the Rocks and Fossils in the Gray Sandstone, Medina Sandstone, Clinton Group, Niagara Group, Onondaga Salt Group, and a Part of the Water-lime Group, p.117-42; Memorandum of Drawers and Boxes of Fossils, p.143-46.

5 (for 1851) 1852. 117p. illus. 22pl. (lith.) O.

Contents: Report of Chancellor, p. 9-10; Account, p. 12-14; Catalogue of Quadrupeds, Birds, Reptiles, Amphibians, Fishes etc. added Jan. 1, 1851 to Jan. 1, 1852, p.15-34. 2 pl.; Catalogue of Minerals, Geological Specimens and Fossils added Jan. 1, 1851 to Jan. 1, 1852, p.35-43; Additions to the Historical and Antiquarian Collection Jan. 1, 1851 to Jan. 1, 1852, p.45-54; References to various Writings relating to the Natural History of New York that have appeared during 1851, p.55-57; Meriam, E. Description of the Means employed to Remove the Rocks at Hellgate by Submarine Engineering, p.59-64; Materials belonging to the State, which have been used in Publishing the Natural History and the Annual Reports of the Regents received since Feb. 12, 1851, p.65-66; Morgan, L. H. Report on the Fabrics, Inventions, Implements and Utensils of the Iroquois, made Jan. 22, 1851, p.67-117. 20 pl.

6 (for 1852) 1853. 35 p. O.

Contents: Report of Chancellor, p. 7-8; Gebhard, John, jr. Statement and Proposal of, p.9-11; Catalogue of the Cabinet of Fossils of John Gebhard jr. p.12-13; Account, p.14-15; Catalogue of Quadrupeds, Birds, Reptiles, Amphibians etc. added Jan. 1, 1852 to Jan. 1, 1853, p.17-24; Catalogue of Minerals, Geological Specimens and Fossils added Jan. 1, 1852 to Jan. 1, 1853, p.25-28; Fossils which were Part of Gebhard Collection delivered by Hall to the Curator of the State Cabinet, p.29-30; Miscellaneous, p.31-32; Additions to the Historical and Antiquarian Collection Jan. 1, 1852 to Jan. 1, 1853, p.33-35.

7 (for 1853) 1854. 128p. illus. 2pl. (lith.) O.

Contents: Report of Chancellor, p.7-9; Account, p.10-11; Catalogue of Quadrupeds, Birds, Reptiles, Amphibians, Fishes etc. added Jan. 1, 1853 to Jan. 1, 1854, p.13-26; Catalogue of Mollusca, Crustacea, etc. added Jan. 1, 1853 to Jan. 1, 1854, p.27-42; Additions to the Botanical Department Jan. 1, 1853 to Jan. 1, 1854, p.43-50; List of Minerals, Geological Specimens and Fossils added Jan. 1, 1853 to Jan. 1, 1854, p.51-65; Additions to the Historical and Antiquarian Collection Jan. 1, 1853 to Jan. 1, 1854, p.67-72; Catalogue of Indian Relics, p.73-77; Cook, G. H. On the Nature of Specimens of Salt and Salt Water presented by him with an Analysis, p.79-93; Baird, S. F. On the Serpents of New York, p.95-124, 2pl.; Order of Publication of the Volumes of Natural History of New York, p.125; Materials to be used in Completing the Publication of the Natural History, p.127.

8 (for 1854) 1855. 69p. 1pl. (lith.) O.

Contents: Report of Chancellor, p. 7-8; Account, p. 9-10; Catalogue of Quadrupeds, Birds, Reptiles, Fishes etc. added Jan. 1, 1854 to Jan. 1, 1855, p.13-22; List of Minerals, Geological Specimens and Fossils added Jan. 1, 1854 to Jan. 1, 1855, p.23-31; Additions to the Historical and Antiquarian Collection Jan. 1, 1854 to Jan. 1, 1855, p.33-39; Materials to be used in Completing the Publication of the Natural History, p.41-44; Miscellaneous, p. 45-48; DeKay, J. E. Catalogue of the Fishes Inhabiting the State of New York, p. 49-69.

9 (for 1855) 1856. 64 p. illus. O.

Contents: Report of Chancellor, p.7-8; Account, p.9; Catalogue of Birds, Reptiles, Amphibians, Fishes and Shells added Jan. 1, 1855 to Jan. 1, 1856, p.11-38; List of Minerals, Geological Specimens and Fossils added Jan. 1, 1855 to Jan. 1, 1856, p.39-48; Additions to the Historical and Antiquarian Collection Jan. 1, 1855 to Jan. 1, 1856, p.49-60; Materials to be used in Completing the Publication of the Paleontology, p.61-63.

10 (for 1856) 1857. 190p. illus. O.

Contents: Report of Chancellor, p.7-8; Account, p.9; Addresses delivered at the Inauguration of the State Geological Hall, p.11-28; Catalogue of Fossils collected by Jewett, p.29-37; Hall, James. Descriptions of Palaeozoic Fossils, p.39-180; Hall, James. On the Genus Tellinomya and Allied Genera, p. 181-86; Miscellaneous, p. 187-90.

11 (for 1857) 1858. 44 p. O.

Contents: Report of Chancellor, p. 7-9; Account, p. 10; Catalogue of Geological Specimens from England, p.11-36; Catalogue of Shells, p.37-42; Catalogue of Fossils, p.43; Miscellaneous Contributions, p.44.

12 (for 1858) 1859. 111 p. illus. O.

Contents: Report of Chancellor, p.3-4; Account, p.5; Hall, James. Contributions to the Palaeontology of New York, p.7-96, 110; Donations and Purchases during 1858, p.97-109; Note on the genus Ambonychia, p.110.

13 (for 1859) 1860. 128 p. illus. 24 pl. (lith.) map. O.

Contents: Report of Chancellor, p. 5-6; Account, p. 7-8; Catalogue of Mammalia, Birds, Reptiles and Fishes added Jan. 1, 1859 to Jan. 1, 1860, p.11-14; List of Deficiencies in Mammalia, Birds, Reptiles and Amphibia Inhabiting the State, p.15-16; Additions to the Cabinet, principally Fossils, p.17-18; List of Geological and Mineralogical Specimens donated by T. A. Cheney, p.19; Donations to the Historical and Antiquarian Collection from T. A. Cheney, p.20; Catalogue of the Reigen Collection of Mazatlan Mollusca presented by P. P. Carpenter, p.21-36; Cheney, T. A. Ancient Monuments in Western New York, p.37-52. 24 pl.; Hall, James. Contributions to Palaeontology, 1858 and 1859, p.53-125; Supplementary Note on Palaeontology of New York v.3, p.126-28.

14 (for 1860) 1861. 109p. 20pl. (lith.) O.

Contents: Report of Chancellor, p. 7-8; Account, p. 9-10; Catalogue of Additions Jan. 1, 1860 to Jan. 1, 1861, p.13-15; Lincklaen, Ledyard. Guide to the Geology of New York and to the State Geological Cabinet, p.17-85, 20 pl.; Hall, James. Contributions to the Palaeontology of New York, p. 87-110.

15 (for 1861) 1862. 198p. illus. 11pl. (lith.) O.

Contents: Report of Chancellor, p. 7; Account, p. 9; Donations Jan. 1, 1861 to Jan. 1, 1862, p. 13; Catalogue of Shells from John G. Anthony, p.15-21; Catalogue of Shells contributed from the Duplicates collected by the Exploring Expedition by Prof. Henry, p.23-25; Hall, James. Contributions to Palaeontology, p.27-197. 11 pl.; Jewett, Ezekiel. Letter regarding Fossils of the Chemung group, p.198.

16 (for 1862) 1863. 226p. illus. 16pl. (lith.) O.

Contents: Report of Chancellor, p.7; Account, p.9; Donations 1862, p.13-14; Catalogue of Collections made by the Curator 1862, p.15; Danker, H. A. List of Birds of New York noticed in Maine June 1862, p.15-16; Hall, James. Contributions to Palaeontology, p.17-226. 16 pl.; Bruyas, Jacques. Radical Words of the Mohawk Language, 123 p.

17 (for 1863) 1864. 60 p. O.

Contents: Report of Chancellor, p. 5-6; Report of Secretary of Regents, p.9-11; List of Deficiencies, p.12-19; Donations 1863, p.20-21; Catalogue of Additions made by the Curator 1863, p.22-23; Additions 1863 acquired by Purchase, p.23; Clinton, G. W. Plants of Buffalo and its Vicinity, p. 24-35; Meteorological Observations, p. 36-45; Annual Meteorological Synopsis for 1863, p. 46-49; Hall, James. Contributions to the Palaeontology of New York, p.50-60.

18 (for 1864) 1865. 231p. illus. 2pl. (phot.) O.

Contents: Report of Chancellor, p. 5-7; Additions 1864, p. 11-16; Ward, H. A. Wadsworth Gallery of Casts of Fossil Animals, p. 17-52. 2 pl.; Paine, J. A. Catalogue of Plants found in Oneida County and Vicinity, p. 53-192; Peck, C. H. Catalogue of Mosses, p. 193-96; Clinton, G. W. Flora of the State, p. 197-205; Results of Meteorological Observations, p. 207-31.

19 (for 1865) 1866. 80 p. O.

Contents: Report of Chancellor, p. 5-7; Special Report of the Regents in Relation to the State Cabinet of Natural History, p. 8-32; Account, p. 33; Additions 1865, p. 39-41; Peck, C. H. List of Mosses, p. 42-70; List of Plants for State Herbarium collected by H. B. Lord, p.71; Clinton, G. W. Flora of the State, p. 72-80.

20 (for 1866) 1867. 410p. illus. 21pl. (lith.) O.

Contents: Report of Chancellor, p. 5-8; Account, p. 11; Additions 1866, p.15-18; Catalogue of Shells presented by Smithsonian Institution, p.19-54; List of Specimens in the Economic Collection, p.55-57; Catalogue of Books in the Library, p.59-61; Wilson, W. D. Local Climatology, p.63-106; Meteorological Observations, p.107-40; Whitfield, R. P. Observations on the Internal Appendages of the Genus Atrypa, p. 141-44. 1 pl.; Notice of v.4 of the Palaeontology of New York, p.145-68; Hall, James. Introduction to the Study of the Graptolitidae, p.169-239; Hall, James. Contributions to Palaeontology, p.240-401. 16 pl.; [a]Hall, James. Notes upon the Geology of some Parts of Minnesota; Note upon the Structure of the Mountain Region in the Northern Part of Georgia and Alabama, and the Adjacent Parts of Tennessee; Note upon the Geological Relations of the Oil-bearing Strata of Canada West; Peck, C. H. Flora of the State, p.403-10.

[b]20 *rev. ed.* (for 1866) 1868; *issued 1870.* 447p. illus. 23pl. (lith.) Q.

Contents: Report of Chancellor, p. 9-12; Account, p. 15; Additions 1866, p.17-20; Catalogues of Shells presented by Smithsonian Institution, p.21-60; List of Specimens in Economic Collection, p.61-63; Catalogue of Books 1866, p. 64-66; Wilson, W. D. Local Climatology, p. 67-106; Results of Meteorological Observations, p. 107-41; Peters, C. H. F. Longitude of Western Boundary Line of State of New York, p. 143-57; Peck, C. H. Flora of the State, p. 159-66; Whitfield, R. P. Observations on the Internal Appendages of the Genus Atrypa, p. 167-72. 1 pl.; Notice of v. 4 of Palaeontology of New York, p. 173-99; Hall, James. Introduction to the Study of the Graptolitidae, p. 201-75. 4 pl.; Hall, James. Contributions to Palaeontology, p.277-345; Hall, James. New or Little Known Species of Fossils from Rocks of the Age of the Niagara Group, p. 347-438. 17 pl.

21 (for 1867) 1871. 7+190p. illus. 9pl. (phot.) 4 maps. O.

Contents: Report of Chancellor, pref. p. 5-6; Account, pref. p. 7; Report of Curator, p. 5-12; Additions 1867, p. 13-19; Schedule of Contents of

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[a] Titles of these three papers appear in the table of contents, but the papers were never published, except the first which was printed in the Transactions of the American Philosophical Society. 1869. 13:329-41.

[b] 300 copies printed.

Pickett Collection, p. 20-21; Report of Botanist, p. 23-24; Morgan, L. H. Stone and Bone Implements of the Arickarees, p. 25-46. 6 pl.; Hunt, T. S. On the Mineralogy of the Laurentian Limestones of North America, p. 47-98; Hall, James. Cohoes Mastodon, p. 99-148. 2 pl. 4 maps; Index to Reports 1-20 Exclusive of Geologic and Palaeontologic Papers, p. 149-90.

22 (for 1868) 1869. 7+113 p. map. O.

Contents: Report of Chancellor, pref. p. 5; Account, pref. p. 6; Report of Curator, p.1-7; Additions 1868, p.9-16; Aldrich, T. H. Partial List of Shells found near Troy, N. Y., p.17-24; Report of Botanist, p.25-106; Merriam, C. L. Meteorological Report, p. 107-8; Hough, F. B. Early Observations upon Magnetic Variations, p. 109-13.

23 (for 1869) 1873. 9+252p. 14pl. (lith.) O.

Contents: Report of Chancellor, pref. p. 7-8; Account, pref. p. 9; Report of Curator, p. 5-15; Additions 1869, p. 17-26; Report of Botanist, p. 27-135. 6 pl.; Lintner, J. A. Entomological Contributions, p. 137-216. 2 pl.; Speyer, A. On Cucullia Intermedia *n. sp.* and C. Lucifuga W. V., p. 217-22; Hall, James & Whitfield, R. P. Descriptions of Devonian Fossils, p. 223-43. 4 pl.; Hall, James. New or Imperfectly Known Forms among the Brachiopoda, p. 244-47. 2 pl.; Hall, James. Reply to a Note on a Question of Priority, p. 248-52.

24 (for 1870) 1872. 7+232p. 9pl. (lith.) O.

Contents: Report of Chancellor, pref. p. 5; Account, pref. p. 7; Report of Director, p.5-16; Additions 1870, p.17-32; List of Mounted Fishes, p. 33-37; List of Fishes Received from the Smithsonian Institution in 1865, p. 39-40; Report of Botanist, p. 41-108. 4 pl.; Lintner, J. A. Entomological Contributions no. 2, p. 109-70; Colvin, Verplanck. Ascent of Mt Seward and its Barometrical Measurement, p. 171-80. 1 pl.; Hall, James & Whitfield, R. P. New Species of Fossils from the Vicinity of Louisville, Kentucky, and the Falls of the Ohio, p. 181-200a. 5 pl. in 27th rep.; Hall, James & Whitfield, R. P. Some Peculiar Impressions in Sandstone of Chemung Group, p. 201-4; Hall, James. New Species of Crinoidea and other Fossils from Strata of the Age of the Hudson River Group and Trenton Limestone, p. 205-24. 3 pl.; Hall, James. New Species of Fossils from the Hudson River Group in the Vicinity of Cincinnati, Ohio, p. 225-32. 1 pl.

25 (for 1871) 1873. 7+123p. 2pl. (lith.) O.

Contents: Report of Chancellor, pref. p. 7; Report of Director, p. 5-13; Additions 1871, p.15-26; Contents of Gebhard Collection, p.27-33; Long Island Mollusca presented, p.35-38; Catalogue of European Shells presented by the Smithsonian Institution in 1869, p. 39-55; Report of Botanist, p. 57-123. 2 pl.

26 (for 1872) 1874. 6+192 p. illus. O.

Contents: Report of Chancellor, pref. p. 5-6; Report of Director, p. 5-15; Additions 1872, p.17-25; List of Iron Ores in Economic Collection, p.27-30; Record of Borings of Gardner Oil Well no. 3 at East Shamburg, Pennsylvania, p. 31-33; Report of Botanist, p. 35-91; Hall, James. Descriptions of Bryozoa and Corals of the Lower Helderberg Group, p. 93-116; Lintner, J. A. Entomological Contributions no. 3, p. 117-92.

27 (for 1873) 1875. 7+148p. 7pl. (lith.) map. O.

Contents: Report of Chancellor, pref. p. 7; Report of Director, p. 5-21; Additions 1873, p.23-40; List of Rock Specimens from Cumberland, Eng. p.41-42; List of Land and Fresh Water Shells presented by T. H. Aldrich, p. 43-46; List of Gould types of Mollusca in Museum Collection, p. 47-55; List of Building Stones in Economic Collection, p.57-71; Report of Botanist, p. 73-116. 2 pl.; Hall, James. The Niagara and Lower Helderberg Groups; their Relations and Geographical Distribution, p. 117-31; Hall, James. Descriptions of New Species of Goniatitidae, p.132-36; Lintner, J. A. Entomological Contributions, p.137-48.

28 (for 1874) 1879. 7+210p. 37pl. (lith.) O. (State Museum ed.)

Contents: Report of Chancellor, pref. p. 7; Report of Director, p. 5-16; Additions 1874, p.17-30; Report of Botanist, p.31-88. 2 pl.; Walcott, C. D. Discovery of the Remains of the Natatory and Branchial Appendages of Trilobites, p. 89-92; Walcott, C. D. New Species of Fossils from the Trenton Limestone, p. 93-97; Hall, James. Fauna of the Niagara Group in Central Indiana, p. 99-203. 32 pl.; Some Remarkable Crinoidal Forms from the Lower Helderberg Group, p. 205-10. 3 pl.

29 (for 1875) 1878. 82p. 2pl. (lith.) O.

Contents: Report of Chancellor, p. 7; Report of Director, p. 11-18; Additions 1875, p. 19-28; Report of Botanist, p. 29-82. 2pl.

30 (for 1876) 1878. 7+256 p. 4 pl. (lith.) O.

Contents: Report of Chancellor, pref. p. 7; Report of Director, p. 5-12; Additions 1876, p. 13-22; Report of Botanist, p. 23-78. 2 pl.; Leeds, A. R. Lithology of the Adirondacks, p. 79-109; Hall, J. W. & Fritz-Gaertner, R. On the Structure of Astraeospongia meniscus, p.111-16. 1 pl.; Lintner, J. A. Entomological Contributions no. 4, p.117-254; Hall, James. Genus Plumalina, p.255-56. 1 pl.

31 (for 1877) 1879. 6+78p. 1pl. (lith.) O.

Contents: Report of Chancellor, pref. p.4; Report of Director, p.5-10; Additions 1877, p. 11-17; Report of Botanist, p. 19-60; Walcott, C. D. Some Sections of Trilobites from the Trenton Limestone, p. 61-65. 1 pl.; Walcott, C. D. Eggs of the Trilobite, p. 66-67; Walcott, C. D. New Species of Fossils from the Chazy and Trenton Limestones, p.68-71; Fritz-Gaertner, R. Phlogopyte, p. 72-78.

32 (for 1878) 1879. 7+176 p. O.

Contents: Report of Chancellor, pref. p.7; Report of Director, p.5-9; Additions 1878, p. 10-16; Report of Botanist, p. 17-72; Peck, C. H. Mosses of Caledonia Creek, p. 73-74; Lintner, J. A. Insects and Other Animal Forms of Caledonia Creek, N. Y., p. 75-99; Webster, H. E. Annelida chaetopoda of New Jersey, p.101-28; Walcott, C. D. New Species of Fossils from the Calciferous Formation, p. 129-31; Hall, C. E. Laurentian Magnetic Iron Ore Deposits in Northern New York, p. 133-40; Hall, James. Bryozoa and Corals of the Lower Helderberg Group, p. 141-76.

33 (for 1879) 1880. 49p. 2pl. (lith.) O.

Contents: Report of Chancellor, p. 3-4; Report of Director, p. 5-10; Report of Botanist, p. 11-49. 2 pl.

34 (for 1880) 1881. 58p. 4pl. (lith.) O.

Contents: Report of Chancellor, p. 3-4; Report of Director, p. 5-12; Additions 1880, p.13-19; Additions to the Library 1880, p.20-23; Report of Botanist, p. 24-58. 4 pl.

35 (for 1881) 1884. 481 p. 30 pl. (lith.) map. O.

Contents: Report of Chancellor, p. 5-6; Report of Director, p. 7-11; Additions 1881, p.13-18; Distribution of Duplicate Fossils and Minerals, p.19-27; List of Species in each of Ten Duplicate Collections of Fossils for High Schools and Academies, p.29-32; List of Species and Specimens of Cephalopoda, p.33-66; Crinoidea from Tentaculite Limestone, p.67; List of Unionidae of the Gould Collection, p.68-81; List of Unionidae of the New York State Collection, p.82-83; List of Unionidae of the General Collection, p.84-101; List of Land Shells of the New York State Collection, p.102-6; List of Corbiculadae of the New York State Collection, p.107; List of Land Shells of the United States in the Museum Collection, p.108-11; List of Shells presented in 1875 by Dr James Lewis, p.112-17; Statistics Relating to the State Museum, as compiled from the Report made to the Tenth Census of the United States Jan. 4, 1882, p. 118-19; Hall, J. W. Machinery and Methods of Cutting Specimens of Rocks and Fossils, p.121-24. 2 pl.; Report of Botanist, p.125-64; De Tarr, D. N. List of the Rhizopoda found in the Vicinity of Albany, N. Y., p. 165-67; Simpson, G. B. Anatomy and Physiology of Anodonta fluviatilis, p.169-91, 11 pl.; Wright, S. H. Aboriginal Work on Bluff Point, Yates co. N. Y., p. 193-94. 1 pl.; Wright, B. H. Geology of Yates County, N. Y., p. 195-206. 3 pl.; Walcott, C. D. New Species of Fossils from the Trenton Group of New York, p. 207-14. 1 pl.; Hall, James. Lamellibranchiate Shells of the Upper Helderberg, Hamilton and Chemung Groups, p. 215-406g; Hall, James. Fossil Corals from the Niagara and Upper Helderberg Group, p. 407-64. 8 pl; Hall, James. Species of Fossil Reticulate Sponges Constituting the Family Dictyospongidae, p.465-82. 4pl.

36 (for 1882) 1883. 94p. 6pl. (lith.) O.

Contents: Report of Chancellor, p. 7-8; Report of Director, p. 9-15; Additions 1882, p. 17-20; List of Niagara fossils from Waldron, Indiana, p.21-25; List of Genera and Species of Brachiopoda of which Sections have been prepared for the Microscope, p.26; Report of Botanist, p.27-49; Beecher, C. E. Some Abnormal and Pathologic Forms of Freshwater Shells from the Vicinity of Albany, N. Y., p. 51-55. 2 pl.; Hall, James. Bryozoa of the Hamilton Group, p. 57-72; Hall, James. On the Structure of the Shell in the Genus Orthis, p. 73-75. 2 pl.; Hall, James. New Species of Stylonurus from the Catskill Group, p. 76-77. 1 pl.; Beecher, C. E. List of Species of Fossils from an Exposure of Utica Slate and Associated Rocks within the Limits of the City of Albany, p.78; Murray, David, *comp.* Catalogue of the Published Works of James Hall, p. 79-94; Illustration of Cryptozoön, pl.6.

37 (for 1883) 1884. 68 p. O.

Contents: Report of Vice-chancellor, p. 7-9; Act to regulate the State Museum and the Publication of the Palaeontology of the State, p. 11-12; Contract between the State of New York by the Trustees of the State

Museum and Charles H. Van Benthuysen, p. 12-16; Contract between the State of New York by the Trustees of the State Museum and James Hall, State Geologist, p.16-18; Report of Director, p.19-24; Current Work, p.25; Additions 1883, p.27-31; Catalogue of Translucent Sections of Rocks and Fossils, p.33-43; Report of Entomologist, p.47-60; [a]Report of Botanist, p. 63-68.

38 (for 1884) 1885. 138p. 3pl. (lith.) O.

Contents: Report of Chancellor, p. 3-5; Report of Director, p. 7-15; Additions 1884, p.16-20; List of Minerals in the General Collection, p. 21-60; Report of Geologist, p. 61-65; Report of Entomologist, p. 67-76; Report of Botanist, p. 77-138. 3 pl.

39 (for 1885) 1886. 229p. 12pl. (lith.) map. O.

Contents: Report of Chancellor, p. 7-8; Report of Director, p. 9-14; Additions 1885, p. 15-29; Report of Botanist, p. 30-73. 2 pl.; Report of Entomologist, p. 77-125; Simpson, G. B. Anatomy of the Snail, p. 127. 1 pl.; Webster, H. E. Annelida chaetopoda of New Jersey, p.128-59. 7 pl.; Hall, James. Obscure Organisms in Roofing Slates of Washington County, N. Y., p. 160. 1 pl.; Beecher, C. E. A Spiral Bivalve Shell from the Waverly Group of Pennsylvania, p. 161-63. 1 pl.; Smock, J. C. Crystalline Rock Region of Dutchess, Putnam and Westchester Counties, N. Y., p. 166-85; Hall, James. Building Stones, p. 186-225; Report of Geologist, p. 226-29.

40 (for 1886) 1887. 163 p. O.

Contents: Report of Vice-chancellor, p. 5-8; Report of Director, p. 11-19; Additions 1886, p. 21-34; Smock, J. C. Report of Field Work for 1886, p. 35-36; Report of Botanist, p. 37-77; Report of Entomologist, p. 79-154; Report of Geologist, p. 155-63 (Supplement to Geol. rep. 6).

41 (for 1887) 1888. 410p. illus. 9pl. (lith.) map. O.

Contents: Report of Chancellor, p. 9-11; Report of Director, p. 13-25; Additions 1887, p.27-34; Additions to Library, p.35-43; Catalogue of Gems and Precious Stones, p.44-48; Report of Botanist, p.49-122. 1 pl.; Report of Entomologist, p. 123-358; Report of Geologist, p. 359-410. 8 pl.

Contents of Geol. rep. 7 in Mus. rep. 41: Palaeontology of New York, v. 6, p. 361-78; Beecher, C. E. Synoptical Table of the Genera and Species described in v. 6 of the Palaeontology of New York, p. 363-75; Synopsis of Contents of Palaeontology of New York v. 7, p. 378-80; Hall, James. Palaeontology of New York v. 8, p. 381-82; Beecher, C. E. Statement of Condition of Work on Brachiopoda, Palaeontology of New York, v. 8, p. 383-84; Beecher, C. E. Lamellibranchiata, List of Genera Illus. and not Illus. on Plates of Geol. Rep. for 1882, p.385-87; Clarke, J. M. Supposed Mastodon Bones Found at Attica, N. Y., p. 388-90. 1 pl.; Hall, James. Description of New Species of Fenestellidae of the Lower Helderberg; with explanation of plates illus. species of the Hamilton group, described in Geol. rep. for 1886, p. 391-410. 8 pl.

42 (for 1888) 1889. 496p. illus. 3pl. (lith.) O.

Contents: Report of Chancellor, p. 9-13; Report of Director, p. 17-36. 1 pl.; Report of Assistant in Charge, p. 37-49; Additions to Collections, p.50-64; Additions to Library, p.65-74; Murray, David. Catalogue of Published Works of James Hall, p.75-97; Report of Botanist, p.99-144. 2 pl.; Report of Entomologist, p. 145-347; Report of Geologist, p. 349-496.

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[a] Titles of four articles are enumerated but not printed here. The articles appear in Mus. bul. 2.

Contents of Geol. rep. 8 in Mus. rep. 42: Report of Geologist, p. 351-402; Palaeontology of New York, v. 7, p. 351-69; List of Type Specimens of Devonian Crustacea described in Palaeontology of New York v. 7, in the Possession of Museum, p. 370-73; Palaeontology of New York v. 8, p. 373-88; Clarke, J. M. Genera of the Palaeozoic Brachiopoda, p. 389-92; List of Microscopic Sections of Brachiopoda, p.392-93; List of Preparations for v. 8, p.393-94; List of Plates of Brachiopoda, p.394-95; Schuchert, Charles. List of Fossils in the Oriskany Sandstone of Maryland, New York and Ontario, p. 396-400; Clarke, J. M. Genus Bronteus in the Chemung Rocks, p.403-5; Clarke, J. M. List of Species Constituting the known Fauna and Flora of Marcellus Epoch in N. Y., p. 406-7; Clarke, J. M. Hercynian Question, p. 408-37; Bishop, I. P. Locality of Flint Implements in Wyoming County, N. Y., p. 438-40; Catalogue of Specimens Representative of the Taconic System, p.441-44; List of Plates, Drawings, names of Draughtsmen and Lithographers for Palaeontology of New York v. 5, pt 1 and 2, v. 7 and 8, p.445-49; Record of Locality Numbers, p. 450-96.

43 (for 1889) 1890. 274p. illus. 4pl. (lith.) map. O.

Contents: Report of Assistant in Charge, p. 11-20; Additions to collections, p. 21-37; Additions to Library, p. 37-47; Report of Botanist, p. 49-97. 4 pl.; Report of Entomologist, p.99-205; Report of Geologist, p. 207-74.

Contents of Geol. rep. 9 in Mus. rep. 43: Report of Geologist, p. 209-27; Palaeontology of New York v. 8, p. 209-18; Geological Map of the State of New York, p. 218-27; Hall, James. Fossil Dictyospongidae of the Devonian and Carboniferous Formations, p. 227-29; Schuchert, Charles. On Syringothyris, Winchell, and its American Species, p.230-39; Schuchert, Charles. List of Species of the American Palaeozoic Orthis, Spirifera, Spiriferina and Syringothyris, p.240-57; Hall, James. New Forms of Dictyospongidae from the Rocks of the Chemung Group, p.258-62; Record of Locality Numbers, p.263-74.

44 (for 1890) 1892. 405 p. illus. 12 pl. (lith.) O.

Contents: Report of Director, p. 11-16; Report of Assistant in Charge, p.17-21; Additions to Collections, p.22-26; List of Catalogues of Shells published in Former Annual Reports, p.27; Catalogue of Mounted Mammals in the Collection, Sep. 30, 1890, p.28-30; Catalogue of the Collection of Mammalian Osteology, p.31-33; Report of Geologist, p.35-114, 5 pl.; Report of Botanist, p. 115-87. 4 pl.; Report of Entomologist, p. 197-405. 3 pl.

Contents of Geol. rep. 10 in Mus. rep. 44: Report of Geologist, p. 37-55; Palaeontology of New York v. 8, p. 37-44; Clarke, J. M. Genera of the Palaeozoic Brachiopoda, p.45-48; Original Drawings for Palaeontology of New York v. 8, p. 49; List of Figures for v. 8, p.49-51; Lists of Microscopic Sections of Brachiopoda, p.52-53; Clarke, J. M. Report of Assistant Palaeontologist, p.59-61; List of Accessions to the Department of Palaeontology, p. 62-64; Hall, James. Descriptions of Bryozoa, p. 65-87; Clarke, J. M. Genus Acidaspis, p. 91-101. 3 pl.; Clarke, J. M. Coronura aspectans, p.105-9. 1 pl.; Clarke, J. M. Terataspis grandis, p.111-14, 1 pl.; (Additional papers in geologist's edition).

45 (for 1891) 1892. 616p. illus. 2pl. (phot.) map. O.

Contents: Report of Director, p. 11-13; Report of Assistant Director, p. 14; Report of Assistant Zoologist, p. 15-19; Additions to Collections, p. 20-28; Catalogue of Muricidae, p. 29-45; Marshall, W. B. A Deposit of Marl and Peat in the Town of New Baltimore, p. 46-52; Bishop, I. P. Salt Industry of Central New York, p. 53-61; Report of Botanist, p. 63-102; Report of Entomologist, p. 103-320. 2 pl.; Report of Geologist, p. 321-616.

Contents of Geol. rep. 11 in Mus. rep. 45: Report of Geologist, p. 323-45; Livonia Salt Shaft, p. 326-28; Palaeontology of New York, v. 8, p. 328-29; Clarke, J. M. List of Preparations of Spirals, Loops and Hinge-plates for v.8. pt2, p.330-31; List of Genera of Palaeozoic Brachiopoda, p.331-37; Additions to Palaeontological Collections, p. 338-44; Clarke, J. M. Catalogue of the Collection of Geological and Palaeontological Specimens Donated by the Albany Institute, p.347-69; Clarke, J. M. Report of Assistant Palaeontologist, p. 370-71; Clarke, J. M. List of Original and Illustrated Specimens in the Palaeontological Collections, pt 1, Crustacea, p. 373-437; Record of Localities of Extra Limital Geological and Palaeontological Collections, p.438-39; Clarke, J. M. On Cordania, a Proposed New Genus of Trilobites, p. 440-43; Publications of Geologist, p.444-47; Hall, James & Clarke, J. M. Introduction to the Study of the Brachiopoda, p. 449-616.

46 (for 1892) 1893. 495 p. illus. O.

Contents: Report of Director, p. 11, 62-81; Report of Assistant Director, p.12-14; Report of Assistant Zoologist, p.15-61; Additions to Zoological Collections, p.21-27; Catalogue of Zoological Collections, p.29-61; Collections of Fossils made for Palaeontology of New York Previous to 1883, p.62-65; List of Boxes of Fossils in State Hall, p.66-74; Additions to Collections in Geology and Palaeontology, p.75-77; School Collections, p.77-79; Museum Publications, p.79-81; Report of Botanist, p.83-149; Report of Geologist, p.151-288; Report of Entomologist, p.289-495.

Contents of Geol. rep. 12 in Mus. rep. 46: Report of Geologist, p. 153-87; Palaeontology of New York v. 8, pt 1. p. 160-68; Palaeontology of New York v. 8, pt 2, p. 169-71; Geological Map of the State of New York, p. 171-84; Geological Surveys and Maps of Part of the State of New York, p.184-85; Clarke, J. M. Report of Assistant Palaeontologist, p.189-95; Additions to the Geological and Palaeontological Collections 1891-92, p.196-99; Clarke, J. M. List of Original and Illustrated Specimens in the Palaeontological Collections, pt 2, Annelida and Cephalopoda, p. 201-50; Emerson, B. K. Two Boulders of a very Basic Eruptive Rock from the West Shore of Canandaigua Lake, p.251-55; Prosser, C. S. Devonian Section of Central New York along the Unadilla River, p. 256-88.

47 (for 1893) 1894. 1137p. illus. pl. (phot.) maps. O.

Contents: Report of Director, p. 9-19; Report of Assistant Palaeontologist, p.17; Additions to Palaeontological Collection, p.18; Report of Assistant Director, p.21-30; Report of Assistant Zoologist, p.30-34; Additions to Collections, p.35-40; World's Fair Exhibits, p.41-75; Catalogue of Zoological Collections, p.77-128; Report of Botanist, p.129-74; Report of Entomologist, p. 175-97; Report of Geologist, p. 199-1137.

Contents of Geol. rep. 13 in Mus. rep. 47: Hall, James. Livonia Salt Shaft, its History and Geological Relations, p. 203-14; Luther, D. D. Geology of the Livonia Salt Shaft, p. 215-324; Clarke, J. M. Succession of the Fossil Faunas in the Section of the Livonia Salt Shaft, p. 325-52; Clarke, J. M. New or Rare Species of Fossils from the Horizons of the Livonia Salt Shaft, p. 353-83; Geological Survey of the State of New York, Reports, p. 385-751; Darton, N. H. Relations of the Helderberg Limestones and Associated Formations in Eastern New York, p. 391-422; Darton, N. H. Geology of Albany County, p. 423-55; Nason, F. L. Economic Geology of Albany County, p. 457-81; Darton, N. H. Geology of Ulster County, p. 483-566; Nason, F. L. Economic Geology of Ulster County, p. 567-600; Darton, N. H. Geology of the Mohawk Valley in Herkimer, Fulton, Montgomery and Saratoga Counties, p.601-23; Kemp, J. F. Geology of Essex County, p.625-66; Cushing, H. P. Geology of Clinton County, p. 667-83; Smyth, C. H. jr. Geology of Four Townships in St Lawrence and Jefferson Counties, N. Y., p. 685-709; Randall, F. A. Geology of Cattaraugus and Chautauqua Counties, p. 711-21; Clarke, J. M. Field Work in Chenango County, p.723-51; Clarke, J. M. *comp.* List of Publications relating to the Geology and Palaeontology of New York 1876-93, p.753-91; *Department of Palaeontology (v. 2 of Geol. rep.)* p.793-1137: Palaeontology of New York v. 8, pt 2, p. 797-802; Clarke, J. M. Evolution of the Genera of the Palaeozoic Brachiopoda, p.803-40; Description of New Species figured in v. 8, pt 2 of Palaeontology of New York, p. 841-51; Sherzer, W. H. Platycnemic man in New York, p. 853-77; Simpson, G. B. Genera of Fenestellidae, p.879-921; Simpson, G. B. Glossary and Explanations of Specific Names of Bryozoa and Corals, p.923-41; Hall, James & Clarke, J. M. Introduction to the Study of the Brachiopoda, pt 2, p.943-1137.

48 (for 1894) 1895. v.1, 650p.+p. 93-595, illus. pl. (phot.) maps. O. v. 2 (Report of Geologist), 669p. illus. 44 pl. (lith.) other pl. (phot.) maps. O. v. 3, 44 pl. (lith.) (on edible fungi). O.

Contents, v. 1: Report of Director, p.11-39; List of Accessions, p.13; List of Awards to Mineral Exhibit at World's Fair, p.14-15; Catalogue of New York Woods, p.16-20; Catalogue of Building Stones, p.21-31; Catalogue of Rock Specimens collected by Kemp, p.32-39; Report of Geologist, p. 41-44; Marshall, W. B. Geographical Distribution of New York Unionidae, p. 45-99; Report of Botanist, p. 101-337, 44 pl. in v. 3; Report of Entomologist, p.339-635; Report of Assistant Zoologist, p. 637-47; Marshall, W. B. List of Shells Inhabiting the Vicinity of Albany and Troy, N. Y., p. 641-47; Index, p. 648-50; Bulletin 12, Ries, Heinrich. Clay Industries of New York, p. 93-262 (2d paging); Bulletin 13, Lintner, J. A. San José Scale, Aspidiotus perniciosus and Some

Other Destructive Scale Insects of New York State, p.263-305 (2d paging); Bulletin 14, Kemp, J. F. Geology of Moriah and Westport Townships, Essex co., p.323-55 (2d paging); Bulletin 15, Merrill, F. J. H. Mineral Resources of New York State, p.359-595 (2d paging);

Contents of Geol. rep. 14 in Mus. rep. 48 v. 2: Staff of geologist, p. 5; Report of Geologist and Palaeontologist, p.7-29; Preface to Palaeontology of New York, v. 8, pt 2, p. 21-28; Geological Survey of the State of New York, Reports, p. 31-125; Darton, N. H., Faulted Region of Herkimer, Fulton, Montgomery and Saratoga Counties, p. 31-53; Beecher, C. E. & Hall, C. E. Field Notes on the Geology of the Mohawk Valley, p. 54-56; Lincoln, D. F. Geology of Seneca County, p. 57-125; Bernard, Felix. Principles of Palaeontology ed. by J. M. Clarke, p.127-215; Ruedemann, Rudolf. Development and Growth of Diplograptus, p. 217-49. 5 pl.; Girty, G. H. Revision of the Sponges and Coelenterates of the Lower Helderberg group of New York, p. 259-309. 7 pl.; Hall, James & Clarke, J. M. New Species of Brachiopoda Described in Palaeontology of New York v. 8, pt 1 and 2, p. 323-72. 14 pl.; Simpson, G. B. Handbook of the Genera of the North American Palaeozoic Bryozoa, p. 403-669. 30 pl.

49 (for 1895) v. 1, 1897, v. 2-3, 1898. v. 1, 6+334p. illus. 6 pl. (lith.) other pl. (phot.) O. v. 2 (Report of Geologist) 738p. illus. pl. (phot.) maps. Q. v. 3 (Report of Geologist) p.739-984. illus. 47 pl. (lith.) Q.

Contents, v. 1: Report of Director, p. 1-10; Additions to Collections, p. 9-10; Report of Geologist and Paleontologist, p.11-15; Report of Botanist, p.17-83. pl.44-49; Report of Entomologist, p.85-329; Index, p.331-34.

Contents of Geol. rep. 15, v. 1 in Mus. rep. 49, v. 2: Report of Geologist and Palaeontologist, p.7-26; Geological Survey of the State of New York, Reports, p. 27-698; Clarke, J. M. Stratigraphic and Faunal Relations of the Oneonta Sandstones and Shales, the Ithaca and the Portage Groups in Central New York, p. 27-81; Prosser, C. S. Classification and Distribution of the Hamilton and Chemung Series of Central and Eastern New York, pt 1, p. 83-222; Luther, D. D. Stratigraphic position of the Portage Sandstones in the Naples Valley and the Adjoining Region, p. 223-36; Luther, D. D. Economic Geology of Onondaga County, p. 237-303; Bishop, I. P. Geology of Erie County, p. 305-92; Ries, Heinrich. Geology of Orange County, p.393-475; Smyth, C. H. jr. Crystalline Rocks of St Lawrence County, p. 477-97; Cushing, H. P. Geology of Clinton County, p. 499-573; Kemp, J. F. Geology of Essex County, p. 575-614; Prosser, C. S. & Cumings, E. R. Sections and Thickness of the Lower Silurian Formations on West Canada Creek and in the Mohawk Valley, p. 615-59; Smyth, C. H. jr. Talc Industry of St Lawrence County, p. 661-71; Ries, Heinrich. Physical tests of the Devonian Shales, p. 673-98; Ruedemann, Rudolf. Discovery of a Sessile Conularia, p. 699-728; Clarke, J. M. Crustaceans from the Chemung Group, p. 729-38.

Contents of Geol. rep. 15, v. 2 in Mus. rep. 49, v. 3: Hall, James & Clarke, J. M. Memoir on the Palaeozoic Reticulate Sponges Constituting the Family Dictyospongidae; pt 1, p. 741-984. 47 pl.

50 (for 1896) v. 1, 1898, v. 2, 1899. v. 1, 4+403+134p. illus. pl. (phot.) maps. O. v. 2 (Report of Geologist), 8+448p. illus. 32pl. (lith.) other pl. (phot.) maps. Q.

Contents, v. 1: Report of Director, p.1-20; Additions to Museum Collections, p.12-20; Geology of Crystalline Rocks of Southeastern New York, p.21-31; Origin of Serpentines in the Vicinity of New York, p. 32-44; Public Geologic and Mineralogic Collections in the United States and Canada, p. 45-74; Index to Report of Director, p. 75-76; Report of Botanist, p. 77-159; Report of Entomologist, p. 161-403; Bulletin 16, Beauchamp, W. M. Aboriginal Chipped Stone Implements, p. 3-84 (2d paging); Bulletin 17, Merrill, F. J. H. Road Materials and Road Building in New York p. 87-134 (2d paging).

Contents of Geol. rep. 16 in Mus. rep. 50 v. 2: Report of Geologist and Palaeontologist, pref. p.7-8; Geological Survey of the State of New York, Reports, p.1-27, 171-226; Cushing, H. P. Boundary Between the Potsdam and Precambrian Rocks North of the Adirondacks, p. 1-27; Clarke, J. M. Naples Fauna in Western New York, p. 29-161. 9 pl.; Clarke, J. M. Early Stages of Certain Goniatites, p. 163-69; Luther, D. D. Brine Springs and Salt Wells of New York and the Geology of the Salt District, p.171-226; Grabau, A. W. Faunas of the Hamilton Group of Eighteen-mile Creek and Vicinity in Western New York, p. 227-339; Hall, James & Clarke, J. M. Memoir on the Palaeozoic Reticulate Sponges Constituting the Family Dictyospongidae, pt 2, p. 341-448, pl. 48-70.

51 (for 1897) 1899. v.1, r153+410p. illus. 9pl. (lith.) other pl. (phot.) maps. O. v.2 (Report of Geologist), 564p. illus. pl. (phot.) maps. O.

Contents, v.1: Report of Director, p.r5-13; Additions to Collections, p.r13-20; White, T. G. Relations of the Ordovician and Eo-Silurian Rocks in Portions of Herkimer, Oneida and Lewis Counties, p.r21-54; Watson, T. L. Some Higher Levels in the Postglacial Development of the Finger-lakes, p.r55-117; Nevius, J. N. Talc Industry of St Lawrence County, N. Y., p.r119-27; Nevius, J. N. History of Cayuga Lake Valley, p.r129-53; Bulletin 18, Beauchamp, W. M. Polished Stone Articles Used by the New York Aborigines, p.3-102; Bulletin 19, Merrill, F. J. H. Guide to the Study of the Geological Collections of the New York State Museum, p.105-262; Report of Botanist, p.263-321. 9 pl.; Report of Entomologist, p.327-90; General Index, p.391-410.

Contents of Geol. rep. 17 in Mus. rep. 51, v.2: Report of Geologist and Paleontologist, p.5-7; Bishop, I. P. Petroleum and Natural Gas in Western New York, p.9-63; Prosser, C. S. Classification and Distribution of the Hamilton and Chemung Series of Central and Eastern New York, pt2, p.65-315; Eastman, C. R. Upper Devonian Fish Fauna of Delaware County, N. Y., p.317-27; Prosser, C. S. & Rowe, R. B. Stratigraphic Geology of the Eastern Helderbergs, p.329-54; Ries, Heinrich. Limestones of New York, p.355-467; Smyth, C. H. jr. Crystalline Rocks of Western Adirondack Regions, p.469-97; Kemp, J. F. & Newland, D. H. Geology of Washington, Warren and Parts of Essex and Hamilton Counties, p.499-553; Index, p.555-64.

52 (for 1898) 1900. v.1, r111+695p. illus. 6pl. (lith.) other pl. (phot.) maps. O. v.2 (Report of Geologist), 169p. illus. pl. (phot.) maps. O.

Contents, v.1: Report of Director, p.r5-17; Accessions to Collections, p.r18-32; Bagg, R. M. jr. Report of Work on the Collections of Mesozoic and Cenozoic Fossils in Geological Hall, p.r32-40; Catalogue of Mesozoic and Cenozoic Fossils, p.r40-46; Catalogue of European Fossils presented by Murchison, p.r47-71; Bagg, R. M. jr. *comp.* Synoptic Catalogue of Fossils, p.r71-78; Nevius, J. N. Fossil Plant from Orange County, p.r79-81; Nevius, J. N. Sacandaga Mining and Milling Co. and the Sutphen Process, p.r82-87; Ries, Heinrich. Notes on a Trip from Port Jervis to Rondout, p.r88-91; Bean, T. H. Fishes of Long Island, p.r92-111; Bulletin 20, Felt, E. P. Elm-leaf Beetle in New York State, p.1-43. 1pl.; Bulletin 21, Kemp, J. F. Geology of Lake Placid Region, p.47-67; Bulletin 22, Beauchamp, W. M. Earthenware of New York Aborigines, p.71-146; Bulletin 23, Report of Entomologist, p.151-295; Bulletin 24, Felt, E. P. Memorial of Life and Entomologic Work of J. A. Lintner, p.301-611; Bulletin 25, Report of Botanist, p.617-88. 5 pl.; General Index, p.689-95.

Contents of Geol. rep. 18 in Mus. rep. 52, v.2: Report of Acting State Geologist and Paleontologist, p.5-7; Kümmel, H. B. The Newark or New Red Sandstone Rocks of Rockland County, p.9-50; Prosser, C. S. Sections of the Formations Along the Northern End of the Helderberg Plateau, p.51-72; Cushing, H. P. Geology of Franklin County, p.73-128; Smyth, C. H. jr & Newland, D. H. Progress in Mapping Crystalline Rocks of Western Adirondack Region, p.129-35; Kemp, J. F., Newland, D. H. & Hill, B. F. Geology of Hamilton, Warren and Washington Counties, p.137-62; Index, p.163-69.

53 (for 1899) 1901. v.1, r170+867p. 4pl. (lith.) other pl. (phot.) maps. O. v.2, 234p. 33pl. (lith.) Q.

Contents, v.1: Report of Director, p.r5-170; Report of Geologist, p.r7-154; Additions to Collections, p.r163-70; Bulletin 26, Felt, E. P. Collection, Preservation and Distribution of New York Insects, p.3-34; Bulletin 27, Felt, E. P. Shade Tree Pests in New York State, p.39-60; Bulletin 28, Peck, C. H. Plants of North Elba,p .65-266; Bulletin 29, Miller, G. S. jr. Preliminary List of New York Mammals, p.271-390; Bulletin 30, Orton, Edward. Petroleum and Natural Gas in New York, p.395-526; Bulletin 31, Report of Entomologist, p.531-653; [a]Report of Paleontologist, p.659-816; Report of Botanist, p.821-67. 4pl.; General Index, p.657-61.

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54 (for 1900) 1902. v.1, r261+195+484p. 17pl. (lith.) other pl. (phot.) O. v.2, p.489-1063, 2pl. (lith.) other pl. (phot.) O. v.3, 968p. 37pl. (lith.) other pl. (phot.) O. v.4, 664p. 13pl. (lith.) other pl. (phot.) O.

Contents, v.1: Report of the Director and State Geologist, p.r3-261; Tests of Road Metal, p.r14-22; Cushing, H. P. Recent Geologic Work in Franklin and St Lawrence Counties, p.r23-82; Cushing, H. P. Pre-Cambrian Outlier at Little Falls, Herkimer co., p.r83-95; Finlay, G. I. Preliminary Report of Field Work in the Town of Minerva, Essex co., p.r96-102; Fairchild, H. L. Pleistocene Geology of Western New York, Report of Progress for 1900, p.r103-39; Eckel, E. C. The Quarry Industry in Southeastern New York, p.r141-76; Parsons, A. L. Recent Developments in the Gypsum Industry in New York State, p.r177-83; Accessions to Collections, p.r201-7; Stoller, J. H. Two New Land Isopods, p.r208-13; Scott, G. G. Notes on the Marine Food Fishes of Long Island and a Biologic Reconnaissance of Cold Spring Harbor, p.r214-29; Converse, H. M. Iroquois Silver Brooches, p.r231-54; Index, p.r255-61; Report of State Paleontologist 1900, p.3-124; Report of State Botanist 1900, p.129-99. 13pl.; Bulletin 32, Beauchamp, W. M. Aboriginal Occupation of New York, p.3-187; Bulletin 33, Farr, M. S. Check List of New York Birds, p.193-409; Bulletin 34, Cumings, E. R. Lower Silurian System of Eastern Montgomery County, Prosser, C. S. Notes on the Stratigraphy of the Mohawk Valley and Saratoga County, N. Y. p.415-84.

v.2: Bulletin 35, Ries, Heinrich. Clays of New York, p.489-944; Bulletin 36, Felt, E. P. 16th Report of State Entomologist, p.949-1063.

v.3: Bulletin 37, Felt, E. P. Illustrated Descriptive Catalogue of Injurious and Beneficial Insects of New York State, p.3-52; Bulletin 38, Miller, G. S. jr. Key to the Land Mammals of Northeastern North America, p.59-160; Bulletin 39, Clarke, J. M., Simpson, G. B. & Loomis, F. B. Paleontologic Papers, p.165-231; Bulletin 40, Simpson, G. B. Anatomy and Physiology of Polygyra Albolabris and Limax Maximus, p.237-314; Bulletin 41, Beauchamp, W. M. Wampum and Shell Articles Used by the New York Indians, p.319-480; Bulletin 42, Ruedemann, Rudolf. Hudson River Beds near Albany and their Taxonomic Equivalents, p.485-596; Bulletin 43, Kellogg, J. L. Clam and Scallop Industries of New York State, p.601-31; Bulletin 44, Ries, Heinrich. Lime and Cement Industries of New York, p.639-968.

v.4: Bulletin 45, Grabau, A. W. Guide to the Geology and Paleontology of Niagara Falls and Vicinity, p.3-284; Bulletin 46, Felt, E. P. Scale Insects of Importance and List of the Species in New York State, p.289-377; Bulletin 47, Needham, J. G. and Betten, Cornelius. Aquatic Insects in the Adirondacks, p.383-612; Bulletin 48, Woodworth, J. B. Pleistocene Geology of Portions of Nassau County and Borough of Queens, p.617-70; General Index, p.673-79.

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Geologist's annual reports for 1881-1900. Rep'ts 1, 3-13, 17-date, O; 2, 14-16, Q. 1881-1902.

The annual reports of the early natural history survey, 1837-41 are out of print.

Reports 1-4, 1881-84 were published only in separate form. Of the 5th report 4 pages were reprinted in the 39th museum report, and a supplement to the 6th report was included in the 40th museum report. The 7th and subsequent reports are included in the 41st and following museum reports, except that certain lithographic plates in the 11th report (for 1891) and 13th report (for 1893) are omitted from the 45th and 47th museum reports.

Separate volumes of the geologist's 12th and 20th reports can be supplied for 50 cents; 14th, 17th and 18th for 75 cents each; 15th and 16th for $1 each; 19th for 40 cents. Others, except as parts of museum reports, are not available.

In 1898 the paleontologic work of the State was made distinct from the geologic and will hereafter be reported separately.

1 (for 1881) 1884. 15p. 11pl. (lith.) O.

Contents: Report of Geologist, p.3-7; Classification of the Lamellibranchiata, p.8-15. 11pl.

2 (for 1882) 1883. 17p. illus. 61pl. (lith.) Q.

Contents: Report of Geologist, p.1-3; Hall, James. Discussion upon Genus Fenestella, p.5-16; 33 plates illustrating corals and Bryozoans of upper and lower Helderberg groups; Brachiopoda, plates and explanations, pl.34-61.

3 (for 1883) 1884. 61p. O.

Contents: Report of Geologist, p.1-3; Hall, James. Bryozoans of the Hamilton Group, p.5-61.

4 (for 1884) 1885. 47p. illus. 2pl. (lith.) maps. O.

Contents: Report of Geologist, p.1-8; Geological Map of the State, p.4-8; Clarke, J. M. Geological Succession in Ontario County, N. Y., p.9-22; Hall, C. E. Laurentian Magnetic Iron Ore Deposits of Northern New York, p.23-34; Hall, James, Mode of Growth and Relations of the Fenestellidae, p.35-45. 2pl.; wood-cuts of palaeozoic pectenoid shells, p.47.

5 (for 1885) 1886. 47p. illus. 28pl. (lith.) maps. O.

Contents: Report of Geologist, p.3-5; Palaeontology of New York, v.5, pt2, Lamellibranchiata, p.5-7; Beecher, C. E. & Hall, C. E. Field Notes on the Geology of the Mohawk Valley, p.8-10; Oneonta Sandstone in the Vicinity of Oxford, Chenango County, N. Y., p.11; Bishop, I. P. Salt Wells of Western New York, p.12-47; 14 plates to accompany Palaeontology of New York, v.5, pt2; 14 plates to accompany Palaeontology of New York, v.6.

6 (for 1886) 1887. 70p. 8pl. (lith.) maps. O.

Contents: Report of Geologist, p.3-9; Williams, S. G. Lower Helderberg Rocks of Cayuga Lake, p.10-12; Williams, S. G. Tully Limestone, its Distribution and its Known Fossils p.13-29; Clarke, J. M. Annelid Teeth from Lower Portion of Hamilton Group and from Naples Shales of Ontario County, N. Y., p.30-33. 1pl.; Clarke, J. M. Supposed Mastodon Bones Found at Attica, N. Y., p.34-35; Hall, James. Dictyospongidae in New York, p.36-38; Hall, James. Note on the Discovery of a Skeleton of an Elk in Farmington, Ontario co., p.39; Hall, James. Descriptions of Fenestellidae of the Hamilton Group, p.41-70. 7pl.

7 (for 1887) no separate edition. *see* Mus. rep. 41 for contents.

8 (for 1888) 1889. 150p. illus. O.

Contents: Report of Geologist, p.5-56; Palaeontology of New York v.7, p. 5-23; List of Type Specimens of Devonian Crustacea described in Palaeontology of New York, v.7 in Possession of Museum, p.24-27; Palaeontology of New York v.8, p.27-42; Clarke, J. M. Genera of the Palaeozoic Brachiopoda, p.43-46; List of Microscopic Sections of Brachiopoda, p.46-47; List of Preparations for v.8, p.47-48; List of Plates of Brachiopoda, p.48-49; Schuchert, Charles. List of the Fossils in the Oriskany Sandstone of Maryland, New York and Ontario, p.50-54; Clarke, J. M. Genus Bronteus in the Chemung Rocks, p.57-59; Clarke, J. M. List of Species Constituting the Known Fauna and Flora of the Marcellus Epoch in New York State, p.60-61; Clarke, J. M. Hercynian Question, p.62-91; Bishop, I. P. Locality of Flint Implements in Wyoming County, N. Y., p.92-94; Catalogue of Specimens Representative of the Taconic System, p.95-98; List of Plates, Drawings, Names of Draughtsmen and Lithographers for Palaeontology of New York, v.5, pt1 and 2, v.7 and 8, p.99-103; Record of Locality Numbers, p.104-50.

9 (for 1889) 1890. 72p. O.

Contents: Report of Geologist, p.7-25; Palaeontology of New York, v.8, p.7-16; Geological Map of the State of New York, p.16-25; Hall, James. Fossil Dictyospongidae of the Devonian and Carboniferous Formations, p.25-27; Schuchert, Charles. On Syringothyris, Winchell and its American Species, p.28-37; Schuchert, Charles. List of Species of the American Palaeozoic Orthis, Spirifera, Spiriferina and Syringothyris, p.38-55; Hall, James. New Forms of Dictyospongidae from the Rocks of the Chemung Group, p.56-60; Record of Locality Numbers, p.61-72.

10 (for 1890) 1891. 155p. 7pl. (lith.) O.

Contents: Report of Geologist, p.7-25; Palaeontology of New York v.8, p.7-14; Clarke, J. M. Genera of the Palaeozoic Brachiopoda, p.15-18; Original Drawings for the Palaeontology of New York v.8, p.19; List of Figures for v.8, p.19-21; List of Microscopic Sections of Brachiopoda, p.22-23; Clarke, J. M. Report of Assistant Palaeontologist, p.29-31;

List of Accessions to the Department of Palaeontology, p.32-34; Hall, James. Descriptions of Bryozoa, p.35-57; Clarke, J. M. Genus Acidaspis, p.61-71. 3 pl.; Clarke, J. M. Coronura aspectans, p.79-83. 1 pl.; Clarke, J. M. Terataspis grandis, Hall, p.87-90. 1pl.; Hall, James. Preliminary Notice of Newberria, p.91-99. 2 pl.; Merrill, F. J. H. Quaternary Geology of the Hudson River Valley, p.103-9; Ries, Heinrich. Quaternary Deposits of the Hudson River Valley between Croton and Albany, with Notes on Brick Clays, and the Manufacture of Brick, p.110-55.

11 (for 1891) 1892. 300p. illus. 22pl. (lith.) map. O.

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12 (for 1892) 1893. 142p. O.

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13 (for 1893) 1894. v.1, 597p. illus. 4pl. (lith.) other pl. (phot.) maps. O. v.2, p.598-943. illus. pl.23-54 (lith.) maps. O.

Contents, v.1: Report of Geologist and Palaeontologist, p.7-8; Hall, James. Livonia Salt Shaft, its History and Geological Relations, p.11-20; Luther, D. D. Geology of the Livonia Salt Shaft, p.21-130; Clarke, J. M. Succession of the Fossil Faunas in the Section of the Livonia Salt Shaft, p.131-58; Clarke, J. M. New or Rare Species of Fossils from the Horizons of the Livonia Salt Shaft, p.159-89. 4pl.; Geological Survey of the State of New York, Reports, p.193-557; Darton, N. H. Relations of the Helderberg Limestones and Associated Formations in Eastern New York, p.197-228; Darton, N. H. Geology of Albany County, p.229-61; Nason, F. L. Economic Geology of Albany County, p.263-87; Darton, N. H. Geology of Ulster County, p.289-372; Nason, F. L. Economic Geology of Ulster County, p.373-406; Darton,

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14 (for 1894) 1895. 669p. illus. 44pl. (lith.) other pl. (phot.) maps. Q.

Contents: Staff of geologist, p.7; Report of Geologist and Palaeontologist, p.9-29; Preface to Palaeontology of New York, v.8, pt2, p.21-28; Geological Survey of the State of New York, Reports, p.31-125; Darton, N. H. Faulted Region of Herkimer, Fulton, Montgomery and Saratoga Counties, p.31-53; Beecher, C. E. & Hall, C. E. Field Notes on the Geology of the Mohawk Valley, with a map, p.54-56; Lincoln, D. F. Geology of Seneca County, p.57-125; Bernard, Felix. Principles of Palaeontology, ed. by J. M. Clarke, p.127-215; Ruedemann, Rudolf. Development and Mode of Growth of Diplograptus, p.217-49. 5 pl.; Girty, G. H. Revision of the Sponges and Coelenterates of the Lower Helderberg Group of New York, p.259-309. 7 pl.; Hall, James & Clarke, J. M. New Species of Brachiopoda described in Palaeontology of New York, v.8, pt1 and 2, p.323-72. 14pl; Simpson, G. B. Handbook of the Genera of the North American Palaeozoic Bryozoa, p.403-669. 30pl.

15 (for 1895) v.1, 1897, v.2, 1898. v.1, 738p. illus. pl. (phot.) maps. F^4. v.2, p.739-984. illus. 47pl. (lith.) F^4.

Contents: Report of Geologist and Palaeontologist, p.7-26; Geological Survey of the State of New York, Reports, p.27-698; Clarke, J. M. Stratigraphic and Faunal Relations of the Oneonta Sandstones and Shales, the Ithaca and the Portage Groups in Central New York, p.27-81; Prosser, C. S. Classification and Distribution of the Hamilton and Chemung Series of Central and Eastern New York, pt1, p.83-222; Luther, D. D. Stratigraphic Position of the Portage Sandstones in the Naples Valley and the Adjoining Region, p.223-36; Luther, D. D. Economic Geology of Onondaga County, p.237-303; Bishop, I. P. Geology of Erie County, p.305-92; Ries, Heinrich. Geology of Orange County, p.393-475; Smyth, C. H. jr. Crystalline Rocks of St Lawrence County, p.477-97; Cushing, H. P. Geology of Clinton County, p.499-573; Kemp, J. F. Geology of Essex County, p.575-614; Prosser, C. S. & Cumings, E. R. Sections and Thickness of the Lower Silurian Formations on West Canada Creek and in the Mohawk Valley, p.615-59; Smyth, C. H. jr. Talc Industry of St Lawrence County, p.661-71; Ries, Heinrich. Physical Tests of the Devonian Shales, p.673-98; Ruedemann, Rudolf. Discovery of a Sessile Conularia, p.699-728. 4 pl.; Clarke, J. M. Crustaceans from the Chemung Group, p.729-38.

v.2: Hall, James & Clarke, J. M. Memoir on the Palaeozoic Reticulate Sponges Constituting the Family Dictyospongidae, pt1, p.741-984. 47pl.

16 (for 1896) 1899. 8+448p. illus. 32pl. (lith.) other pl. (phot.) maps. F4.

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17 (for 1897) 1899. 564p. illus. pl. (phot.) maps. O.

Contents: Report of Geologist and Palaeontologist, p.5-7; Bishop, I. P. Petroleum and Natural Gas in Western New York, p.9-63; Prosser, C. S. Classification and Distribution of the Hamilton and Chemung Series of Central and Eastern New York, pt2, p.65-315; Eastman, C. R. Upper Devonian Fish Fauna of Delaware County, N. Y., p.317-27; Prosser, C. S. & Rowe, R. B. Stratigraphic Geology of the Eastern Helderbergs, p.329-54; Ries, Heinrich. Limestones of New York, p.355-467; Smyth, C. H. jr. Crystalline Rocks of the Western Adirondack Region, p.469-97; Kemp, J. F. & Newland, D. H. Geology of Washington, Warren and Parts of Essex and Hamilton Counties, p.499-553; Index, p.555-64.

18 (for 1898) 1899. 169p. illus. pl. (phot.) maps. O.

Contents: Report of Acting State Geologist and Paleontologist, p.5-7; Kümmel, H. B. The Newark or New Red Sandstone Rocks of Rockland County, p.9-50; Prosser, C. S. Sections of the Formations along the Northern End of the Helderberg Plateau, p.51-72; Cushing, H. P. Geology of Franklin County, p.73-128; Smyth, C. H. jr & Newland, D. H. Progress in Mapping Crystalline Rocks of Western Adirondack Region, p.129-35; Kemp, J. F., Newland, D. H. & Hill, B. F. Geology of Hamilton, Warren and Washington Counties, p.137-62; Index, p.163-69.

19 (for 1899) 1901. 158p. illus. pl. (phot.) maps. O.

Contents: Report of Geologist, p.r7-16; Kemp, J. F. & Hill, B. F. Precambrian Formations in Parts of Warren, Saratoga, Fulton and Montgomery Counties, p.r17-35; Cushing, H. P. Geology of Rand Hill and

Vicinity, Clinton Co., p.r37-82; Smyth, C. H. jr. Geology of the Crystalline Rocks in the Vicinity of the St Lawrence River, p.r83-104; Bishop, I. P. Oil and Gas in Southwestern New York, p.r105-34; Nevius, J. N. Roofing Slate Quarries of Washington County, p.r135-50; Nevius, J. N. Emery Mines of Westchester County, p.r151-54; Index, p.r155-58.

20 (for 1900) 1902. 189p. illus. pl. (phot.) maps. O.

Contents: Report of Geologist, p.r7-22; Tests of Road Metal, p.r14-22; Cushing, H. P. Recent Geologic Work in Franklin and St Lawrence Counties, p.r23-82; Cushing, H. P. Pre-Cambrian Outlier at Little Falls, Herkimer Co., p.r83-95; Finlay, G. I. Preliminary Report of Field Work in the Town of Minerva, Essex Co., p.r96-102; Fairchild, H. L. Pleistocene Geology of Western New York, Report of Progress for 1900, p.r103-39; Eckel, E. C. The Quarry Industry in Southeastern New York, p.r141-76; Parsons, A. L. Recent Developments in the Gypsum Industry in New York State, p.r177-83; Index, p.r185-89.

Paleontologist's annual reports for 1899-1901. 1900-1902.

See fourth note under Geologist's annual reports.

Bound also with museum reports of which they form a part. Reports for 1899 and 1900 may be had for 20 cents each. Beginning with 1901 these reports will be issued as bulletins.

(for 1899) 1900. p.659-816. O.

Contents: Report of Paleontologist, p.661-78; Accessions, p.679-83; General Record of Localities of American Paleozoic Fossils belonging to State Museum, p.683-813; Index, p.815-16.

(for 1900) 1901. 124p. 4pl. (lith.). O.

Contents: Report of Paleontologist, p.5-25; Accessions, p.25-31; New Entries of Localities of Fossils, p.31-81; Clarke, J. M. Notes on Paleozoic Crustaceans, p.83-119. 4 pl.; Index, p.121-24.

(for 1901) 1902. p.419-693. 9pl. (lith.) O.

Contents: Report of Paleontologist, p.419-56; George Bancroft Simpson, p.457-60; Accessions, p.461-68; New Entries of Localities of Fossils, p.468-516; Clarke, J. M.; Ruedemann, R. & Luther, D. D. Contact Lines of Upper Siluric Formations on the Brockport and Medina Quadrangles, p.517-23; Clarke, J. M. Paleontologic Results of the Areal Survey of the Olean Quadrangle, p.524-28; van Ingen, Gilbert. Potsdam Sandstone of the Lake Champlain Basin, p.529-45; Ruedemann, Rudolf. Graptolite Facies of the Beekmantown Formation in Rensselaer County, N. Y., p.546-75; Ruedemann, Rudolf. Growth and Development of Goniograptus thureaui McCoy, p.576-92; White, David. Fossil Alga from the Chemung of New York, p.593-605; Clarke, J. M. A New Genus of Paleozoic Brachiopods, Eunoa, p.606-15; Luther, D. D. Stratigraphic Value of the Portage Sandstones, p.616-31; Ulrich, E. O. and Schuchert, Charles. Paleozoic Seas and Barriers in Eastern North America, p.633-63; Clarke, J. M. Indigene and Alien Faunas of the New York Devonic, p.664-72; Explanation of Plates, p.673-84; Index, p.685-93.

[a]Botanist's annual reports for 1867-1901. 1869-1902.

Bound also with museum reports 21-55 of which they form a part; the first botanist's report appeared in the 21st museum report and is numbered 21. Reports 21-24, 29, 31-41 were not published separately.

Separate reports 25-28, 30, 42-50 and 52 (Museum bulletin 25) are out of print. Report 51 may be had for 40 cents; 53 for 20 cents; 54 for 50 cents; 55 (Museum bulletin 54) for 40 cents. Beginning with 1901, these reports will be issued as bulletins.

Descriptions and illustrations of edible, poisonous and unwholesome fungi of New York have been published in volumes 1 and 3 of the 48th museum report and in volume 1 of the 49th, 51st, 52d, 54th and 55th reports. The descriptions and illustrations of edible and unwholesome species contained in the 49th, 51st and 52d reports have been revised and rearranged, and combined with others more recently prepared and constitute *Museum memoir 4*.

[b]*Contents:* Order Agaricini, 23, p.66-127; Genus Boletus, 23, p.127-33; Genus Clavaria, 24, p.104-5; Genus Aecidium, 24, p.105-8; Gelatinosporium *gen. nov.*, 25, p.84-106; Synopsis of New York Pucciniae, 25, p.110-23; Report on Fungi, 27, p.74-80; Parasitic Fungi of New York and their Supporting Plants, 29, p.71-82; New York Species of Helvella, 31, p.59-60; New York Species of Phallus, 32, p.37-43; Glomerularia *gen. nov.*, 32, p.43-52; New York Species of Lycoperdon, 32, p.58-72; New York species of Amanita, 33, p.38-49; Report on Fungi, 34, p.24-36; New York Carices, 35, p.147-49; New York Species of Lepiota, 35, p.150-64; New York Species of Psalliota, 36, p.41-49; New York Species of Lactarius, 38, p.111-33; New York Species of Pluteus, 38, p.133-38; New York Species of Pleurotus, Claudopus and Crepidotus, 39, p.58-73; Fungi Destructive to Wood, 41, p.86-94; New York Species of Clitopilus, 42, p.135-42 (*sep. ed.* p.39-46); New York Species of Armillaria, 43, p.86-91 (*sep. ed.* p.40-45); Fungi Destructive to Wood, 43, p.91-93 (*sep. ed.* p.45-47); New York Species of Tricholoma, 44, p.150-76 (*sep. ed.* p.38-64); Fungi of Maryland, 44, p.176-87 (*sep. ed.* p.64-75); New York Species of Omphalia, 45, p.92-102 (*sep. ed.* p.32-42); New York Species of Pluteolus, 46, p.138-41 (*sep. ed.* p.58-61); New York Species of Galera, 46, p.141-49 (*sep. ed.* p.61-69); List of New York Fungi represented at the World's Columbian Exposition at Chicago, 47, p.169-72 (*sep. ed.* p.43-46); Preliminary List of Hymenomycetous Fungi inhabiting our Principal Coniferous Forest Trees, 47, p.172-74 (*sep. ed.* p.45-48); New York Species of Carex, 48, 1:118-202 (*sep. ed.* p.20-104); Edible and Poisonous Fungi of New York, 48, 1:203-316, 44pl. in 48, v.3 (*sep. ed.* p.105-241, 44pl.); New York Species of Collybia, 49, 1:46-69 (*sep. ed.* p.32-55); Edible Fungi, 49, 1:70-78, 5pl. (*sep. ed.* p.56-62); Unwholesome Fungi, 49, 1:79, 1pl. (*sep. ed.* p.65); New York Species of Flammula, 50, 1:133-42; Edible Fungi, 51, 1:300-12, 7pl.; List of Changed Names, 52, 1:628-42; Plants of the Summit of Mt Marcy, 52, 1:657-73; Edible Fungi, 52, 1:673-82, 5pl.; Plants of Bonaparte Swamp, Lewis County, 53, 1:858-61; Edible Fungi, 54, 1:173-86 (1st paging), 8pl.; Edible Fungi, 55, 1:966-82, 5pl.

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[a] Papers entitled *Facts and Observations touching the Flora of the State of New York* were published in Mus. rep. 18, 19 and 20, the last being by C. H. Peck, the present state botanist.

[b] Not including Plants added; Contributors and their contributions; Species not before reported; Remarks and observations, which appear in each report.

Entomologist's annual reports on the injurious and other insects of the State of New York for 1882-1901. 1882-1902.

Reports 3-17 bound also with museum reports 40-46, 48-55 of which they form a part. Beginning with 1898 these reports have been issued as bulletins.

Report	*Price*	*Report*	*Price*	*Report*	*Price*
1 (for 1881) 1882	$.50	7 (for 1890) 1891	$.20	13 (for 1897) 1898	$.10
2 (for 1882 & 1883) 1885	.30	8 (for 1891) 1893	.25	14 (for 1898) 1898 (Mus. bul. 23)	.20
3 (for 1886) 1887	o. p.	9 (for 1892) 1893	.25	15 (for 1899) 1900 (" 31)	.15
4 (for 1887) 1888	o. p.	10 (for 1894) 1895	.35	16 (for 1900) 1901 (" 36)	.25
5 (for 1888) 1889	.25	11 (for 1895) 1896	.25	17 (for 1901) 1902 (" 53)	.30
6 (for 1889) 1890	.15	12 (for 1896) 1897	.25	18 (for 1902) 1903 (" 64)	.20

Reports 1 and 2 were issued independently of the museum.

Paging of separate editions same as museum report editions, except report 4.

Reports 2, 8-12 may also be obtained bound separately in cloth at 25c in addition to the price given above.

For contents of reports 1-13, *see* Mus. bul. 24.

Museum bulletins.[a] O. 1887-1902. *To advance subscribers, $2 a year, or 50c a year for those of any one division:* (1) *geology, including economic geology, general zoology, archeology and mineralogy,* (2) *paleontology,* (3) *botany,* (4) *entomology.*

Bulletins are also found with the annual reports of the museum as follows:

Bulletins	*Report*	*Bulletins*	*Report*	*Bulletins*	*Report*
12-15	48, v. 1	20-25	52, v. 1	35-36	54, v. 2
16-17	50 "	26-31	53 "	37-44	" v. 3
18-19	51 "	32-34	54 "	45-48	" v. 4

The letter and figure in parenthesis after the bulletin number indicate the division and the division and series number. G=geology, EG=economic geology, Z=general zoology, A=archeology, M=mineralogy, P=paleontology, B=botany, E=entomology, Misc=miscellaneous.

Volume 1. 6 *nos.* $1.50 *in cloth*

1 (Z1) Marshall, W. B. Preliminary List of New York Unionidae. 20p. Mar. 1892. *5c.*

2 (B1) Peck, C. H. Contributions to the Botany of the State of New York. 66p. 2pl. (lith.) May 1887. [*35c*]

3 (EG1) Smock, J. C. Building Stone in the State of New York. 152p. Mar. 1888. *Out of print.*

4 (M1) Nason, F. L. Some New York Minerals and their Localities. 20p. 1pl. (phot.) Aug. 1888. *5c.*

5 (E1) Lintner, J. A. White Grub of the May Beetle. 32p. il. Nov. 1888. *10c.*

6 (E2) ——— Cut worms. 36p. il. Nov. 1888. *10c.*

Volume 2. 4 *nos.* [$1.50] *in cloth*

7 (EG2) Smock, J. C. First Report on the Iron Mines and Iron Ore Districts in New York. 6+70p. map. June 1889. *Out of print.*

8 (B2) Peck, C. H. Boleti of the United States. 96p. Sep. 1889. [*50c*]

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[a] The covers of bulletins bound in paper are counted in giving the number of pages.

9 (Z2) Marshall, W. B. Beaks of Unionidae Inhabiting the Vicinity of Albany, N. Y. 24p. 1pl. (lith.) Aug. 1890. *10c.*

10 (EG3) Smock, J. C. Building Stone in New York. 210p. map. tab. Sep. 1890. *40c.*

Volume 3. 5 *nos.*

11 (EG4) Merrill, F. J. H. Salt and Gypsum Industries in New York. 92p. 12pl. (phot.) 2 maps, 11 tab. Ap. 1893. *40c.*

12 (EG5) Ries, Heinrich. Clay Industries of New York. 174p. 2 pl. (phot.) map. Mar. 1895. *30c.*

13 (E) Lintner, J. A. San José Scale, Aspidiotus perniciosus and Some Other Destructive Scale Insects of New York State. 54p. 7pl. (phot.) Ap. 1895. *15c.*

14 (G1) Kemp, J. F. Geology of Moriah and Westport Townships, Essex Co. N. Y.; with notes on the iron mines. 38p. 7pl. (phot.) 2 maps. Sep. 1895. *10c.*

15 (EG6) Merrill, F. J. H. Mineral Resources of New York. 224p. 2 maps. Sep. 1895. *40c.*

Volume 4

16 (A1) Beauchamp, W. M. Aboriginal Chipped Stone Implements of New York. 86p. 23pl. (phot.) Oct. 1897. *25c.*

17 (EG7) Merrill, F. J. H. Road Materials and Road Building in New York. 52p. 14pl. (phot.) 2 maps 34x45, 68x92cm. Oct. 1897. *15c.*

Maps separate *10c each, two for 15c.*

18 (A2) Beauchamp, W. M. Polished Stone Articles Used by the New York Aborigines. 104p. 35pl. (phot.) Nov. 1897. *25c.*

19 (G2) Merrill, F. J. H. Guide to the Study of the Geological Collections of the New York State Museum. 162p. 119pl. (phot.) map. Nov. 1898. *40c.*

Volume 5

20 (E4) Felt, E. P. Elm-leaf Beetle in New York State. 46p. il. 1pl. (lith.) 5pl. (phot.) June 1898. *5c.*

21 (G3) Kemp, J. F. Geology of the Lake Placid Region. 24p. 1pl. (phot.) map. Sep. 1898. *5c.*

22 (A3) Beauchamp, W. M. Earthenware of the New York Aborigines. 78p. 33pl. (phot.) Oct. 1898. *25c.*

23 (E5) Felt, E. P. 14th Report of the State Entomologist 1898. 150p. il. 9pl. (phot.) Dec. 1898. *20c.*

24 (E6) ——— Memorial of the Life and Entomologic Work of J. A. Lintner Ph.D. State Entomologist 1874-98; Index to Entomologist's Reports 1-13. 316p. 1pl. (phot.) Oct. 1899. *35c.*

Supplement to 14th report of the state entomologist.

25 (B3) Peck, C. H. Report of the State Botanist 1898. 76p. 5pl. (lith.) Oct. 1899. *Out of print.*

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26 (E7) Felt, E. P. Collection, Preservation and Distribution of New York Insects. 36p. il. Ap. 1899. *5c.*

27 (E8) ——— Shade-tree Pests in New York State. 26p. il. 5pl. (phot.) May 1899. *5c.*

28 (B4) Peck, C. H. Plants of North Elba. 206p. map. June 1899. *20c.*

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30 (EG8) Orton, Edward. Petroleum and Natural Gas in New York. 136p. il. 3 maps. Nov. 1899. *15c.*

31 (E9) Felt, E. P. 15th Report of the State Entomologist 1899. 128p. June 1900. *15c.*

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32 (A4) Beauchamp, W. M. Aboriginal Occupation of New York. 190p. 16pl. (phot.) 2 maps. Mar. 1900. *30c.*

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35 (EG9) Ries, Heinrich. Clays of New York: their Properties and Uses. 456p. 140pl. (phot.) map. June 1900. *$1, cloth.*

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37 (E11) ——— Catalogue of Some of the More Important Injurious and Beneficial Insects of New York State. 54p. il. Sep. 1900. *10c.*

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Contents: Clarke, J. M. A Remarkable Occurrence of Orthoceras in the Oneonta Beds of the Chenango Valley, N. Y.
——Paropsonema cryptophya; a Peculiar Echinoderm from the Intumescens-zone (Portage Beds) of Western New York
——Dictyonine Hexactinellid Sponges from the Upper Devonic of New York.
——The Water Biscuit of Squaw Island, Canandaigua Lake, N. Y.
Simpson, G. B. Preliminary Descriptions of New Genera of Paleozoic Rugose Corals.
Loomis, F. B. Siluric Fungi from Western New York.

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48 (G4) Woodworth, J. B. Pleistocene Geology of Nassau County and Borough of Queens. 58p. il. 9pl. (phot.) map. Dec. 1901. *25c.*

Volume 10

49 (P5) Ruedemann, Rudolf; Clarke, J. M. & Wood, Elvira. Paleontologic Papers 2. 240p. 13pl. (lith.) Dec. 1901. *40c.*

Contents: Ruedemann, Rudolf. Trenton Conglomerate of Rysedorph Hill.

Clarke, J. M. Limestones of Central and Western New York Interbedded with Bituminous Shales of the Marcellus Stage.

Wood, Elvira. Marcellus Limestones of Lancaster, Erie Co. N. Y.

Clarke, J. M. New Agelacrinites.

——Value of Amnigenia as an Indicator of Fresh-water Deposits During the Devonic of New York, Ireland and the Rhineland.

50 (A6) Beauchamp, W. M. Horn and Bone Implements of the New York Indians. 112p. 43pl. (phot.) Mar. 1902. *30c.*

51 (Z8) Eckel, E. C. & Paulmier, F. C. Catalogue of Reptiles and Batrachians of New York. 64p. il. 1pl. (phot.) Ap. 1902. *15c.*

Eckel, E. C. Serpents of Northeastern United States.

Paulmier, F. C. Lizards, Tortoises and Batrachians of New York.

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53 (E14) Felt, E. P. 17th Report of the State Entomologist 1901. 232p. il. 6pl. (phot.) Aug. 1902. *30c.*

54 (B5) Peck, C. H. Report of the State Botanist 1901. 58p. 7pl. (lith.) Nov. 1902. *40c.*

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55 (A7) Beauchamp, W. M. Metallic Implements of the New York Indians. 94p. 38pl. (phot.) June 1902. *25c.*

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57 (E15) Felt, E. P. Elm Leaf Beetle in New York State. 46p. il. 7pl. (phot.) 1pl. (lith.) Aug. 1902. *15c.*

58 (M2) Whitlock, H. P. Guide to the Mineralogic Collections of the New York State Museum. 150p. il. 39pl. (phot.) 11 models. Sep. 1902. *40c.*

59 (E16) Felt, E. P. Grapevine Root Worm. 40p. il. 1pl. (lith.) 5pl. (phot.) Dec. 1902. *15c.*

60 (Z9) Bean, T. H. Catalogue of the Fishes of New York. 784p. Feb. 1903. *$1, cloth.*

61 (EG11) Dickinson, H. T. Bluestones and other Sandstones in the Upper Devonian in New York State. 108p. 18pl. 2 maps. Mar. 1903. *35c.*

62 (Misc1) Merrill, F. J. H. Directory of Natural History Museums in United States and Canada. 236p. Ap. 1903. *30c.*

63 (P7) Clarke, J. M. Stratigraphy of Canandaigua and Naples Quadrangles; 2 maps. *In press.*

64 (E17) Felt, E. P. 18th Report of the State Entomologist 1902. 110p. 6pl. May 1903. *20c.*

65 (P8) Clarke, J. M. Catalogue of Type Specimens of Paleozoic Fossils in the New York State Museum. 848p. May 1903. *$1.20, cloth.*

66 (Misc2) Ellis, Mary. Index to Publications of the New York State Natural History Survey and New York State Museum. 1837-1902. 418p. June 1903. *75c, cloth.*

67 (B6) Peck, C. H. Report of the State Botanist 1902. 196p. 5pl. May 1903. *50c.*

68 (E18) Needham, J. G. *and others.* Aquatic Insects in New York State. *In press.*

69 (P9) Clarke, J. M. Report of the State Paleontologist 1902. *In press.*

Felt, E. P. & Joutel, L. H. Monograph of the Genus Saperda. *In press.*

Kellogg, James L. Feeding Habits and Growth of Venus mercenaria. *In press.*

Museum memoirs. Q. 1889-1902.

1 Beecher, C. E. & Clarke, J. M. Development of Some Silurian Brachiopoda. 96p. 8pl. (lith.) Oct. 1889. *Out of print.*

2 Hall, James & Clarke, J. M. Palaeozoic Reticulate Sponges, constituting the Family Dictyospongidae. 350p. il. 70pl. (lith.). 1898. *$1, cloth.*

3 Clarke, J. M. The Oriskany Fauna of Becraft Mountain, Columbia Co. N. Y. 128p. 9pl. (lith.) Oct. 1900. *80c.*

4 Peck, C. H. New York Edible Fungi, 1895-99. 106p. 25pl. (lith.) Nov. 1900. *75c.*

This includes revised descriptions and illustrations of fungi reported in the 49th, 51st and 52d reports of the state botanist.

5 Clarke, J. M. & Ruedemann, Rudolf. The Guelph Formation and Fauna of Western New York. *In press.*

6 Clarke, J. M. Naples Fauna in Western New York. *In press.*

Felt, E. P. Insects Affecting Park and Woodland Trees. *In press.*

Natural history of New York. 30v. il. pl. (lith.) maps. Q. 1842-94.

The annual reports of the early natural history survey, 1837-41 are out of print. They were originally published as Assembly doc. 1837, no. 161; 1838, no. 200; 1839, no. 275; 1840, no. 50; 1841, no. 150.

Division 1 Zoology. De Kay, James E. Zoology of New York; or the New York Fauna, comprising detailed descriptions of all the animals hitherto observed within the State of New York with brief notices of those occasionally found near its borders, and accompanied by appropriate illustrations. 5 v. il. pl. maps. sq. Q. 1842-44. *Out of print.*

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Division 3 Mineralogy. Beck, Lewis C. Mineralogy of New York; comprising detailed descriptions of the minerals hitherto found in the State of New York, and notices of their uses in the arts and agriculture. il. pl. sq. Q. 1842. *Out of print.*

v. 1 pt1 Economical Mineralogy. pt2 Descriptive Mineralogy. 24+536p. 1842.

8 plates additional to those printed as part of the text.

Division 4 Geology. Mather, W. W.; Emmons, Ebenezer; Vanuxem, Lardner & Hall, James. Geology of New York. 4v. il. pl. sq. Q. 1842-43. *Out of print.*

v. 1 pt1 Mather, W. W. First Geological District. 37+653p. 46pl. 1843.

v. 2 pt2 Emmons, Ebenezer. Second Geological District. 10+437p. 17pl. 1842.

v. 3 pt3 Vanuxem, Lardner. Third Geological District. 306p. 1842.

v. 4 pt4 Hall, James. Fourth Geological District. 22+683p. Map and 19pl. 1843.

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With hand-colored plates.

v. 3 Fruits, etc. 8+340p. 1851.

v. 4 Plates to accompany v. 3. 95pl. 1851.
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v. 5 Insects Injurious to Agriculture. 8+272p. 50pl. 1854.
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Division 6 Paleontology. Hall, James. Palaeontology of New York. 8v. il. pl. sq. Q. 1847-94. *Bound in cloth.*

v. 1 Organic Remains of the Lower Division of the New York System. 23+338p. 99pl. 1847. *Out of print.*

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v. 4 Fossil Brachiopoda of the Upper Helderberg, Hamilton, Portage and Chemung Groups. 11+1+428p. 99pl. 1867. *$2.50.*

v. 5 pt1 Lamellibranchiata 1. Monomyaria of the Upper Helderberg, Hamilton and Chemung Groups. 18+268p. 45pl. 1884. *$2.50.*

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v. 6 Corals and Bryozoa of the Lower and Upper Helderberg and Hamilton Groups. 24+298p. 67pl. 1887. *$2.50.*

v. 7 Trilobites and Other Crustacea of the Oriskany, Upper Helderberg, Hamilton, Portage, Chemung and Catskill Groups. 64+236p. 46pl. 1888. Cont. supplement to v. 5, pt 2. Pteropoda, Cephalopoda and Annelida. 42p. 18 pl. 1888. *$2.50.*

v. 8 pt 1 Introduction to the Study of the Genera of the Palaeozoic Brachiopoda. 16+367p. 44 pl. 1892. *$2.50.*

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[a]University handbooks. 7½x12½ cm. 1893-1902. In quantities, 1 cent for each 16 pages or less. Single copies postpaid as below.

H5 New York State Museum. 14p. *2c.*

Outlines history and work of the museum; with list of staff and scientific publications, 1893. *New edition in press.*

H13 Paleontology. 8p. *2c.*

Brief outline of State Museum work in paleontology under heads: Definition; Relation to biology; Relation to stratigraphy; History of paleontology in New York.

H15 Guide to Excursions in the Fossiliferous Rocks of New York. 120p. *8c.*

Itineraries of 32 trips covering nearly the entire series of Paleozoic rocks, prepared specially for the use of teachers and students desiring to acquaint themselves more intimately with the classic rocks of this State.

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[a] Including only those relating to the Museum.

H16 Entomology. 16p. *2c.*

H17 Economic Geology. *In preparation.*

H18 Insecticides and Fungicides. 20p. *3c.*

Maps. Merrill, F. J. H. Economic and Geologic Map of the State of New York; issued as part of Museum bulletin 15 and the 48th museum report, v. 1. 59x67 cm. 1894. Scale 14 miles to 1 inch. *Out of print.*

New edition in preparation.

——— Geologic Map of New York. 1901. Scale 5 miles to 1 inch. *In atlas form $3; mounted on rollers $5. Lower Hudson sheet 60c.*

The lower Hudson sheet, geologically colored, comprises Rockland, Orange, Dutchess, Putnam, Westchester, New York, Richmond, Kings, Queens and Nassau counties, and parts of Sullivan, Ulster and Suffolk counties; also northeastern New Jersey and part of western Connecticut.

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Observations on the Genera Capulus, Pileopsis, Acroculia and Platyceras, p.15-19.
Observations on the Genera Platyostoma and Strophostylus, p.20-22.
Observations on the Genus Nucleospira, p.23-34.
Observations on the Genus Eatonia, p.34-37.
Observations on the Genus Rensselaeria, p.38-41.
Observations on the Genus Camarium, p.42-44.
Notes upon the Genus Graptolithus, p.45-58.
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Catalogue of the Species of Fossils described in volumes 1, 2 and 3 of the Palaeontology of New York, with corrections in nomenclature, p.63-87.
Corrected List of the Fossils described in the Report of the 4th Geological District of New York, p.87-92.
Catalogue of the Species of Fossils described in the 3d volume of the Palaeontology of New York, p.93-96.
Supplementary Note on the Genus Ambonychia, p.110.

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Notices of New Forms of the Genus Graptolithus and Allied Genera, p.55-64.
On Genus Rhynchonella, p.65-69.
Observations on Orthis, Skenidium, Ambocoelia and Vitulina, p.69-73.
Observations on the Genera Athyris (=Spirigera), Merista (=Camarium), Meristella and Leiorhynchus, p.73-75.
Descriptions of New Species of Fossils from the Hamilton Group of Western New York, with Notices of Others from the Same Horizon in Iowa and Indiana, p.76-94.
Notes and Observations upon the Fossils of the Goniatite Limestone in the Marcellus Shale of the Hamilton Group, in the Eastern and Central Parts of the State of New York, and Those of the Goniatite Beds of Rockford, Ind., with Some Analogous Forms from the Hamilton Group Proper, p.95-112, 125.
Note upon the Trilobites of the Shales of the Quebec Group in the Town of Georgia, Vt. p.113-19.
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[a] Observations upon Some of the Brachiopoda, with Reference to the Characters of the Genera Cryptonella, Centronella, Meristella, Trematospira, Rhynchospira, Retzia, Leptocoelia and Allied Forms, p.38-61.

Observations upon the Genus Streptorhynchus, with Remarks upon Some Species Heretofore Referred to the Genera Strophomena and Orthis, p.61-66.

Note on the Geological Range of the Genus Receptaculites in American Palaeozoic Strata, p.67-69.

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Observations upon Some Spiral-growing Fucoidal Remains of the Palaeozoic Rocks of New York, p.76-83.

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[b] Preliminary Notice of the Fauna of the Potsdam Sandstone, with Remarks upon the Previously Known Species of Fossils and Descriptions of Some New Ones from the Sandstone of the Upper Mississippi Valley, p.119-209.

Supplementary Note on the Potsdam Sandstone, p.210-20.

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Genus Chonetes (Fischer, 1837), p.242-44.

Remarks on the Genera Productus, Strophalosia, Aulosteges and Productella, p.245-50.

On the Genera Spirifera, Cyrtina and Allied Genera, p.251-57.

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Note on the Genus Eichwaldia, p.274-78.

On the Genus Tropidoleptus, p.279-81.

Note on the Genus Palaeaster, with Descriptions of Some New Species and Observations upon Those Previously Described, p 282-303.

[c] Descriptions of some New Species of Crinoideae and other Fossils from the Lower Silurian Strata, principally of the Age of the Hudson River Group, p.304.

[d] Descriptions of Bryozoa and Corals from the Lower Helderberg Group of New York, p.304.

[e] Descriptions of Bryozoa, etc. from the Upper Helderberg and Hamilton Groups of New York, p.304.

—— New Species of Fossils from a Locality of the Niagara Group in Indiana, with a List of Identified Species from the Same Place. Alb. Inst. Trans. 1858-64. 4:195-228.

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—— On Reorganization of State Cabinet. Mus. rep. 19 (for 1865) 1866. p.27-32.

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[b] Also published in Alb. Inst. Trans. 1864. 5:93-195.

[c] Title given here, but paper was published in Mus. rep. 24, p.205-24.

[d] Title given here, but paper was published in Mus. rep. 26, p.93-116.

[e] Title given here, but paper was afterward published separately, also in Alb. Inst. Trans. 1883. 10:145-97.

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For page references, *see* List of publications, p.245-46.

—— Notes and Observations on the Cohoes Mastodon. Mus. rep. 21 (for 1867) 1871. p.99-148. 5pl. 2 maps.
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Map of Cohoes falls and vicinity (uncolored) 67x42cm.

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For contents of reports, *see* List of publications, p.246-52.

—— Fossil Trees in Schoharie County. Mus. rep. 24 (for 1870) 1872. p.15-16.

—— **& Whitfield, R. P.** Description of New Species of Fossils from the Vicinity of Louisville, Ky. and the Falls of the Ohio. Mus. rep. 24 (for 1870) 1872. p.181-200*a*. 5pl. in 27th report.

—— —— Remarks on Some Peculiar Impressions in Sandstone of the Chemung Group, New York. Mus. rep. 24 (for 1870) 1872. p.201-4.

—— Description of New Species of Crinoidea and Other Fossils from Strata of the Age of the Hudson river Group and Trenton Limestone. Mus. rep. 24 (for 1870) 1872. p.205-24. pl. 5-7.
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—— Notes on Some New or Imperfectly known Forms among the Brachiopoda, etc. Mus. rep. 23 (for 1869) 1873. p.244-47. pl. 13.
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—— Descriptions of Bryozoa and Corals of the Lower Helderberg Group. Mus. rep. 26 (for 1872) 1874. p.93-116.

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—— The Niagara and Lower Helderberg Groups: their Relations and Geographical Distribution in the United States and Canada. Mus. rep. 27 (for 1873) 1875. p.117-31, map 70x50cm.
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—— Illustrations of Devonian Fossils. 1876.
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—— Fauna of the Niagara Group in Central Indiana. Mus. rep. 28 (for 1874) 1879. p.99-203. 32pl.

Printed as a legislative document, 1876.
Other editions in Alb. Inst. Trans. 4:195-228 and 10:57-76.

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—— Geological Survey. Public Service of the State of New York. 1882. 2:367-80.

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Also published separately.

—— —— Plates and descriptions. Geol. rep. 6 (for 1886) 1887. p.41-70. 7pl. Mus. rep. 41 (for 1887) 1888. pl.8-15.

—— On the Structure of the Shell in the Genus Orthis. Mus. rep. 36 (for 1882) 1883. p.73-75. pl.3-4.

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—— Description of a New Species of Stylonurus from the Catskill Group. Mus. rep. 36 (for 1882) 1883. p.76-77. pl.5.

Also published separately.

—— Illustration of Cryptozoön. Mus. rep. 36 (for 1882) 1883. pl.6.

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—— Discussion upon the Manner of Growth, Variation of Form and Characters of the Genus Fenestella, and its Relations to Hemitrypa, Polypora, Retepora, Cryptopora, etc. Geol. rep. 2 (for 1882) 1883. p.5-16, illus. *continued* Geol. rep. 4 (for 1884) 1885. p.35-45. illus. 2pl.

—— Brachiopoda, plates and explanations. Geol. rep. 2 (for 1882) 1883. pl.34-61.

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Dr Hall was appointed paleontologist by Gov. Bouck in 1843, while his title as geologist originated from the commission of 1837 on the geological survey. For his other reports, *see* Annual Report of the Fourth Geological District 1838-41; final report, 1843, and his reports as curator and director of museum, 1867-93.
Geol. rep. 18, edited by J. M. Clarke, acting state geologist and paleontologist.
For page references and contents *see* List of publications, p.257-61.
For later reports of geologist, *see* Merrill, F. J. H; of paleontologist, *see* Clarke, J. M.

—— Classification of the Lamellibranchiata. Geol. rep. 1 (for 1881) 1884. p.8-15. 11pl.

—— Descriptions of Bryozoans of the Hamilton Group (Fenestellidae excepted). Geol. rep. 3 (for 1883) 1884. p.5-61.

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—— Note on Some Obscure Organisms in the Roofing Slates of Washington County, N. Y. Mus. rep. 39 (for 1885) 1886. p.160. pl.11.

—— Report on Building Stones. Mus. rep. 39 (for 1885) 1886. p.186-225.
Communicated to commissioners of new capitol, 1868.
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—— Plates and explanations, published in advance of Palaeontology of New York, v.6. Geol. rep. 5 (for 1885) 1886. pl.25, 27, 29-32, 40-41, 44-45, 48, 50-51, 53.

—— Note on the Occurrence of the Dictyospongidae in the State of New York. Geol. rep. 6 (for 1886) 1887. p.36-38. map.
Map showing geographic distribution of Dictyospongidae in Steuben and adjoining counties, 33 x 26cm.

—— Note on the Discovery of a Skeleton of an Elk (Elaphus canadensis) in the Town of Farmington, Ontario co. Geol. rep. 6 (for 1886) 1887. p.39.

—— Educational Uses of Museums of Natural History. Regents rep. 100 (for 1886) 1887. p.208-13.
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—— Record of Locality Numbers Marking the Specimens Collected for the Illustration of the Palaeontology of New York. Geol. rep. 8 (for 1888) 1889. p.104-50; *continued* 9 (for 1889) 1890. p.61-72. *Same*, Mus. rep. 42 (for 1888) 1889. p.450-96; *continued* 43 (for 1889) 1890. p.263-74.

—— New Forms of Dictyospongidae from the Rocks of the Chemung Group. Geol. rep. 9 (for 1889) 1890. p.56-60. *Same*, Mus. rep. 43 (for 1889) 1890. p.258-62.
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Chart of well sections.

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Geologic map of a part of southeastern New York, 58 x 66cm.

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Sketch map of a part of Long Island, 22.5 x 18.5cm.
Map of the Pleistocene geology of the Oyster Bay and Hempstead quadrangles on Long Island, 71 x 35cm.

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—— On the Sedentary Impression of the Animal whose Trail is known as Climactichnites. Pal. rep. (for 1902). *In press.*

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Young, D. B. List of Coleoptera taken at Newport, Herkimer co., N. Y. Ent. rep. 18 (for 1902). Mus. bul. 64. p.153-61. *In press.*

SUBJECT INDEX

This is mainly an index to geologic, mineralogic and paleontologic publications, including papers in administrative reports of the museum. For index to Entomologist's reports 1-13, *see* Mus. bul. 24. For index to Botanist's reports 22-38, *see* Mus. rep. 41, p.94-122; reports 39-48, *see* Mus. rep. 50, 1:143-59.

Descriptions of rock formations are indexed; also subjects relating to economic geology, names of minerals, names of classes of animals and fossils, ordinal and English names of insects and generic names of plants. A special index to genera and species of fossils follows this.

Geologic formation names are indexed under terms used in the text followed by synonyms in curves, with *See also* references to synonyms and related formations at the end of entries on a subject. The name of the geologist first using the term is indicated by a footnote.

As a rule geographic divisions smaller than counties are not included in the index; there are, however, a few exceptions.

Unless otherwise specified. pl. refers to lithographic plates only.

For other explanatory matter, and list of abbreviations, *see* p.240.

Aborigines. Cheney. Illustrations of the Ancient Monuments in Western New York. Mus. rep. 13 (for 1859) 1860. p.37-52. 24pl. map.

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Hall. Acephala of Clinton Group. Pal. N. Y. 1852. 2:83-88.

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Achnite, *see* Acmite.

Acidulous springs, *see* Carbonated springs.

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Additions to museum collections, *see* Batrachia; Birds; Botanic collection; Crustacea; Economic geology; Entomologic collection; Fishes; Geologic collection; Historical and antiquarian collection; Library; Mammals; Mineralogic collection; Mollusca; Paleontologic collection; Reptiles: Zoologic collection.

Adirondack pass, *see* Indian pass.

[a]Adirondacks. Colvin. Winter Fauna of Mount Marcy. Alb. Inst. Trans. 1879. 9:11-26.

Cushing. Sequence of Geologic Events. Geol. rep. 16 (for 1896) 1899. p.8-15. *Same*, Mus. rep. 50 (for 1896) 1899. 2:8-15.

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Emmons. Annual Report of the Second Geological District. Assembly doc. 1837, no.161, p.97-153 (ed. 2, p.99-155); 1838, no.200, p.185-252; 1839, no.275, p.201-39; 1840, no.50, p.259-353; 1841, no.150, p.113-36.

First report describes reconnaissance of east and west portions of Adirondacks; second report chiefly filled with details of St Lawrence and Essex counties, also many details about iron mines, and an account of his ascent of Mt Marcy; third report describes Hamilton, Clinton and Warren counties; fourth report takes up the iron ores at length, specially those at Lake Henderson; fifth report describes Hamilton, Essex and Franklin counties, and iron ores of Clinton and Franklin.

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Felt. Aquatic Insects of the Saranac Region. Forest, Fish and Game Com. rep. 6 (for 1900) 1901. p.499-531. illus. 6pl.

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[a] For bibliography of Adirondacks, *see* Forest, Fish and Game Com. rep. 4. p.423-41.

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Preliminary geologic map of Albany county, 78x74.5cm.

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[a] First use of term.

Albany county (*continued*)

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Stratigraphic map showing the subdivisions of the Hudson river beds in parts of Albany and Rensselaer counties, 51.5x24.5cm.

See also Helderbergs.

Albion quadrangle. Clarke, Ruedemann & Luther. Contact Lines of Upper Siluric Formations. Mus. bul. 52. 1902. p.519-21.

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Nason. Albite. Mus. bul. 4. 1888. p.9.

Whitlock. Albite. Mus. bul. 58. 1902. p.89-90.

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See also Gabbros; Hypersthene rock.

Ant-lions, *see* Neuropteroid insects.

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For dates of reports, *see* List of publications, p.264.

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Arsenopyrite (*continued*)

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Articulata, *see* Annelida; Crustacea; Entomology.

Articulata (paleozoic), *see* Annelida (paleozoic); Crustacea (paleozoic).

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Merrill. Augite. Mus. bul. 19. 1898. p.121. *Same*, Mus. rep. 51 (for 1897) 1899. 1:121.

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Hunt. Babingtonite. Mus. rep. 21 (for 1867) 1871. p.79.

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Balsam trees, *see* Forest trees.

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See also Newburg limestone.

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Bastite. Beck. Schiller Spar. Min. rep. (for 1839) 1840. p.109. Min. N. Y. 1842. p.311-12.

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For dates of Mus. rep., *see* List of publications, p.241.

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[a] First use of term.

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[a]Darton. Becraft Limestone. Geol. rep. 13 (for 1893) 1894. p.212-13. *Same*, Mus. rep. 47 (for 1893) 1894. p.406-7.
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Ries. Becraft Limestone. Geol. rep. 17 (for 1897) 1899. p.364. *Same*, Mus. rep. 51 (for 1897) 1899. 2:364.

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Ries. Becraft Limestone of Albany County. Geol. rep. 17 (for 1897) 1899. p.429. *Same*, Mus. rep. 51 (for 1897) 1899. 2:429.

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Ries. Becraft Limestone of Columbia County. Geol. rep. 17 (for 1897) 1899. p.431. *Same*, Mus. rep. 51 (for 1897) 1899. 2:431.

—— —— *revised.* Mus. bul. 44. 1901. p.776-77. *Same*, Mus. rep. 54 (for 1900) 1902. 3:776-77.

Ries. Becraft Limestone of Greene County. Geol. rep. 17 (for 1897) 1899. p.437. *Same*, Mus. rep. 51 (for 1897) 1899. 2:437.

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See also Encrinal limestone (Scutella); Scutella limestone.

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Grabau. Stratigraphy of Becraft Mountain, Columbia County. Pal. rep. (for 1902). *In press.*
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Ruedemann. Graptolite (Levis) Facies of the Beekmantown Formation in Rensselaer County N. Y. Mus. bul. 52. 1902. p.546-75.

See also Calciferous sandrock.

Bees, *see* Hymenoptera.

Beetles, *see* Coleoptera.

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Bellvale mountain. Ries. Geology of the Region along Bellvale Mountain. Geol. rep. 15 (for 1895) 1897. p.410-15. *Same*, Mus. rep. 49 (for 1895) 1898. 2:410-15.

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[a] First use of term.

[b] First use of term in original publication of this article. Science. 1899. new ser 10:877.

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Whitlock. Beryl. Mus. bul. 58. 1902. p.96.

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Whitlock. Biotite. Mus. bul. 58. 1902. p.111.

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For dates of Mus. rep., *see* List of publications, p.241.

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Darton. Birdseye Limestone of the Mohawk Valley. Geol. rep. 13 (for 1893) 1894. p.422-24. *Same*, Mus. rep. 47 (for 1893) 1894. p.616-18.

[a] Eaton. Birdseye Marble. Geol. and Agric. Surv. adjoining the Erie Canal. 1824. p.32.

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Emmons. Birdseye Limestone of Clinton County. Geol. N. Y. pt2. 1842. p.317-18.

Emmons. Birdseye Limestone of Jefferson County. Geol. rep. 2d dist. (for 1839) 1840. p.324. Geol. N. Y. pt2. 1842. p.382-86.

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Hall. Organic Remains. Geol. N. Y. pt4. 1843. p.28. Pal. N. Y. 1847. 1:37-46.

Hall. Birdseye Limestone. Pal. N. Y. 1859. 3:11-12.

Lincklaen. Birdseye Limestone; Fossils. Mus. rep. 14 (for 1860) 1861. p.41.

Merrill. Birdseye Limestone. Mus. bul. 19. 1898. p.147-48. *Same*, Mus. rep. 51 (for 1897) 1899. 1:147-48.

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Ries. Birdseye Limestone. Geol. rep. 17 (for 1897) 1899. p.361. *Same*, Mus. rep. 51 (for 1897) 1899. 2:361.

—— —— *revised*. Mus. bul. 44. 1901. p.756, 757. *Same*, Mus. rep. 54 (for 1900) 1902. 3:756, 757.

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[a] First use of term.

Birdseye limestone (*continued*)

Ries. Birdseye Limestone of Herkimer County. Geol. rep. 17 (for 1897) 1899. p.438. *Same*, Mus. rep. 51 (for 1897) 1899. 2:438.

—— —— *revised*. Mus. bul. 44. 1901. p.788. *Same*, Mus. rep. 54 (for 1900) 1902. 3:788.

Ries. Birdseye Limestone of Jefferson County. Mus. bul. 44. 1901. p.789-90. *Same*, Mus. rep. 54 (for 1900) 1902. 3:789-90.

Ries. Birdseye Limestone of Lewis County. Mus. bul. 44. 1901. p.790-91. *Same*, Mus. rep. 54 (for 1900) 1902. 3:790-91.

Smock. Birdseye Limestone. Mus. bul. 3. 1888. p.21; 10. 1890. p.210-11.

—— —— *revised* by Merrill. Mus. bul. 15. 1895. p.426. *Same*, Mus. rep. 48 (for 1894) 1895. 1:426 (2d paging).

—— —— Mus. bul. 19. 1898. p.200. *Same*, Mus. rep. 51 (for 1897) 1899. 1:200.

Smock. Quarries. Mus. bul. 3. 1888. p.94-134; 10. 1890. p.238-55.

—— —— *revised* by Merrill. Mus. bul. 15. 1895. p.432-47. *Same*, Mus. rep. 48 (for 1894) 1895. 1:432-47 (2d paging).

Vanuxem. Birdseye Limestone. Geol. rep. 3d dist. (for 1837) 1838. p.255, 266, 283; (for 1839) 1840. p.370. Geol. N. Y. pt3. 1842. p.39-42, 45.

Vanuxem. Birdseye Limestone in Montgomery County. Geol. rep. 3d dist. (for 1837) 1838. p.259. Geol. N. Y. pt3. 1842. p.250.

Vanuxem. Fossils. Geol. N. Y. pt3. 1842. p.39-40.

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See also Gray sparry limestone (Conrad's first report); Lowville limestone.

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Whitlock. Bismuth. Mus. bul. 58. 1902. p.49.

Bismuthinite. Beck. Bismuthine. Min. N. Y. 1842. p.447.

Hunt. Bismuthine. Mus. rep. 21 (for 1867) 1871. p.91.

Bitter spar, *see* Dolomite.

Bitumen. Beck. Bitumen. Min. rep. (for 1838) 1839. p.15. Min. N. Y. 1842. p.182-84, 444. Mus. rep. 3 *rev. ed.* (for 1849) 1850. p.118.

Black lead, *see* Graphite.

Black marble. Emmons. Black Marble of Isle la Motte. Geol. N. Y. pt2. 1842. p.110-11, 168, 318-19. Ag. N. Y. 1846. 1:123.

Emmons. Isle La Motte Marble in Jefferson County. Geol. N. Y. pt2. 1842. p.386.

Emmons. Black Marble of Glen's Falls. Geol. N. Y. pt2. 1842. p.181-82.

Emmons. Fossils. Geol. N. Y. pt2. 1842. p.111, 318.

See also Black River limestone.

Black river limestone. Clarke & Schuchert. Black River Limestone. *See* New York series.

Cumings. Historical Sketch. Mus. bul. 34. 1900. p.423-24. *Same*, Mus. rep. 54 (for 1900) 1902. 1:423-24.

Cushing. Black River Limestone of Clinton County. Geol. rep. 15 (for 1895) 1897. p.514-73. *Same*, Mus. rep. 49 (for 1895) 1898. 2:514-73.

Darton. Black River Limestone of the Mohawk Valley. Geol. rep. 13 (for 1893) 1894. p.424. *Same*, Mus. rep. 47 (for 1893) 1894. p.618.

Hall. Black River Limestone Group. Geol. N. Y. pt4. 1843. p.28.

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Hall. Black River Limestone. Pal. N. Y. 1859. 3:11-12.

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Black river limestone (*continued*)

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Prosser & Cumings. Lower Silurian Formations on West Canada Creek and in the Mohawk Valley. Geol. rep. 15 (for 1895) 1897. p.627-59. *Same*, Mus. rep. 49 (for 1895) 1898. 2:627-59.

Ries. Black River Limestone. Geol. rep. 17 (for 1897) 1899. p.360. *Same*, Mus. rep. 51 (for 1897) 1899. 2:360.

—— —— *revised.* Mus. bul. 44. 1901. p.756. *Same*, Mus. rep. 54 (for 1900) 1902. 3:756.

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[a] First use of term.

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[a] First use of term.

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[a] First use of term.

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[a] First use of term in original publication of this article. Science. 1899. new ser. 10:877.

[b] First use of term.

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[a] First use of term.

Chemung group (*continued*)

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Purpose of paper to determine line of division between Portage and Chemung groups.

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Pt1 Geologic map of parts of Chenango, Madison, Otsego, Schoharie and Albany counties, 58x33.5cm.

Pt2 Map showing distribution of middle and upper Devonian rocks in central eastern New York, 61x38.5cm; Map of Delaware county, by W. L. Fisher, 34x32cm.

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Chemung group (*continued*)

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Clays (*continued*)

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Clays (*continued*)

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[a] Vanuxem. Clinton Group. Geol. N. Y. pt3. 1842. p.79-90.

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Vanuxem. Clinton Group in Madison County. Geol. N. Y. pt3. 1842. p.272.

Vanuxem. Clinton Group in Oneida County. Geol. N. Y. pt3. 1842. p.262.

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[a] First use of term.

Clinton group (*continued*)

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See also Cauda galli grit.

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See also Anthozoa; Corals; Hydrozoa.

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[b]Clarke & Schuchert. Coeymans Limestone. Mus. mem. 3. 1900. p.11. *Same,* Mus. rep. 53 (for 1899) 1901. 2:11.

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Map of Cohoes falls and vicinity (uncolored) 67x42cm.

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For dates of reports, *see* List of publications, p.264.

Felt. Species Treated. Ent. rep. 14 (for 1898) 1898. p.158-60 (Mus. bul. 23). *Same,* Mus. rep. 52 (for 1898) 1900. 1: 158-60.

—— —— Mus. bul. 20. 1898. p.5-43. *Same,* Mus. rep. 52 (for 1898) 1900. 1:5-43.

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[a] First use of term in report of paleontologist to secretary of Regents. Regents bulletin 59. 1903. p.r42.

[b] First use of term in original publication of this article. Science. 1899. new ser. 10:877.

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Young. List of Coleoptera taken at Newport, Herkimer co., N. Y. Ent. rep. 18 (for 1902). p.153-61. *In press.*

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The following list of species includes only the more important accounts by Lintner in Ent. rep. 1-13; by Felt in Ent. rep. 14-18, Ag. Soc. Trans. 59, Forest. Fish and Game Com. rep'ts, Mus. bul. 20, and later. For dates of reports and bulletins, *see* p.264.

Adalia bipunctata. Ent. rep. 9, p.306. *Same*, Mus. rep. 46, p.306.

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Agrilus ruficollis. Ent. rep. 6, p.123-25. *Same*, Mus. rep. 43, p.123-25.

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Anthrenus scrophulariae. Mus. rep. 30, p.127-35.

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—— Ag. Soc. Trans. 59, p.297-98.

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Coleoptera (*continued*)

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—— Mus. bul. 20, p.1-43. *Same*, Mus. rep. 52, 1:1-43.

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[a] Term originated by Gebhard.

[b] Term Corniferous limerock first used by Eaton. Amer. Jour. of Science. 1839. ser. 1. 36:61-71.

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[a] Including Precambrian.

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Map of Archean areas of Highlands (uncolored) 11x18.5cm.

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[a] First use of term.

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Dikes (*continued*)

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See also Trap.

Diluvium, *see* Drift.

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See also Pyroxene.

Diorites, *see* Crystalline rocks; Harrison diorite.

Diptera. Additions to Collection. Ent. rep. 4, p.206-7; 5, p.325; 6, p.188; 7, p.382; 8, p.297; 9, p.462; 10, p.510, 516; 11, p.285; 12, p.361; 13, p.372; 14, p.257; 15, p.606-7; 16, p.1038; 17, p.814; 18, p.171.

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—— —— Ent. rep. 18 (for 1902) p.99-103. *In press.*

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The following list of species includes only the more important accounts by Fitch, in Ag. Soc. Trans. 21; by Lintner in Ent. rep. 1-13; by Felt in Ent. rep. 12, 14-18, Ag. Soc. Trans. 59, Forest, Fish and Game Com. reports; by Needham in Mus. bul. 47. For dates of reports and bulletins, *see* p.264.

Cecidomyia destructor. Ag. Soc. Trans. 21. p.819-30 (rep. 7, *sep. ed.* p.133-44).

—— Ent. rep. 17, p.705-30 (Mus. bul. 53)

Culicidae. Mus. bul. 68. *In press.*

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Phora agarici. Ent. rep. 10, p.399-406. *Same*, Mus. rep. 48, 1:399-406 (1st paging).

Phytomyza chrysanthemi. Ent. rep. 4, p.73-80. *Same*, Mus. rep. 41, p.193-200.

—— Ent. rep. 7, p.242-46. *Same*, Mus. rep. 44, p.242-46.

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Sciara coprophila. Ent. rep. 10, p.391-97. *Same*, Mus. rep. 48, 1:391-97 (1st paging).

Sepedon fuscipennis. Mus. bul. 47, p.577-80. *Same*, Mus. rep. 54, 4:577-80.

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Stratiomyia badius. Mus. bul. 47, p.576-77. *Same*, Mus. rep. 54, 4:576-77.

Tetanocera pictipes. Mus. bul. 47, p.580-81. *Same*, Mus. rep. 54, 4:580-81.

Tipula abdominalis. Mus. bul. 47, p.575-76. *Same*, Mus. rep. 54, 4:575-76.

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Dolomite. Beck. Magnesian Carbonate of Lime. Min. N. Y. 1842. p.252-56. Mus. rep. 3 *rev. ed.* (for 1849) 1850. p.126.

Hunt. Dolomite. Mus. rep. 21 (for 1867) 1871. p.71-72.

Merrill. Dolomite. Mus. bul. 19. 1898. p.120. *Same*, Mus. rep. 51 (for 1897) 1899. 1:120.

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Dragon flies, *see* Neuropteroid insects.

Drain tile. Bishop. Tile Manufacture of Erie County. Geol. rep. 15 (for 1895) 1897. p.342-45. *Same*, Mus. rep. 49 (for 1895) 1898. 2:342-45.

Merrill. Directory of Manufacturers. Mus. bul. 15. 1895. p.502-18. *Same*, Mus. rep. 48 (for 1894) 1895. 1:502-18 (2d paging).

Nason. Tile Manufacturers and Products, Albany County. Geol. rep. 13 (for 1893) 1894. p.284. *Same*, Mus. rep. 47 (for 1893) 1894. p.478.

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Delafield. Drift Deposits of Seneca County. Ag. Soc. Trans. 10 (for 1850) 1851. p.475-79.

Emmons. Drift, Boulders, etc. Geol. N. Y. pt2. 1842. p.422-27.

Emmons. Drift, Superficial Covering of Clinton County. Geol. N. Y. pt2. 1842. p.323-24.

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Emmons. Distribution of Drift and Boulders of Jefferson County. Geol. N. Y. pt2. 1842. p.410-13.

Emmons. Superficial Covering, Drift or Boulder System of St Lawrence. Geol. N. Y. pt2. 1842. p.364-65.

Emmons. Superficial Deposits in Warren County. Geol. N. Y. pt2. 1842. p.186-88.

Emmons. Diluvial Action. Ag. N. Y. 1846. 1:207-18.

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Gale. Boulders of New York County. Geol. rep. 1st dist. (for 1838) 1839. p.190.

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Hall. Boulders; Erratic Blocks of Monroe County. Geol. rep. 4th dist. (for 1837) 1838. p.331. Geol. N. Y. pt4. 1843. p.424.

Hall. Boulders of Niagara County. Geol. rep. 4th dist. (for 1837) 1838. p.362. Geol. N. Y. pt4. 1843. p.443.

Hall. Boulders of Orleans County. Geol. rep. 4th dist. (for 1837) 1838. p. 354. Geol. N. Y. pt 4. 1843. p.437.

Hall. Boulders of Wayne County. Geol. rep. 4th dist. (for 1837) 1838. p.319. Geol. N. Y. pt4. 1843. p.416.

Hall. Superficial Detritus. Geol. N. Y. pt4. 1843. p.318-31, 342-47.

Hall. Position and Mode of Transport of the Great Northern Boulders. Geol. N. Y. pt4. 1843. p.332-41.

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Mather. Erratic Blocks of Queens, Kings and Richmond Counties. Geol. rep. 1st dist. (for 1837) 1838. p.133-36.

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Drift (*continued*)

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[a] First use of term.

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[a] First use of term.

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[a] First use of term.

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Genesee shales (*continued*)

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[a] First use of term.

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For fuller description, *see* p.271.

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—— —— *revised* by Merrill. Mus. bul. 19. 1898. p.181-84. *Same*, Mus. rep. 51 (for 1897) 1899. 1:181-84.

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Vanuxem. Gneiss and Granite in Lewis County. Geol. N. Y. pt3. 1842. p.265.

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See also Crystalline rocks.

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Graptolitidae, *see* Hydrozoa (paleozoic).

Grasshoppers, *see* Orthoptera.

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Grey band of Rochester, *see* Oneida conglomerate.

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See also Schoharie grit.

[a]**Guelph formation.** Clarke & Schuchert. Guelph Dolomite. *See* New York series.

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See also Onondaga salt group.

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Luther. Sulphate of Lime or Gypsum. Geol. rep. 15 (for 1895) 1897. p.266-67. *Same,* Mus. rep. 49 (for 1895) 1898. 2:266-67.

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Map of New York showing salt wells and mines and gypsum quarries, 38-55cm.
Map of western salt field of New York, 52.5x32.5cm.
Chart of well sections.

—— —— abstract. Mus. bul. 15. 1895. p.545-51. *Same,* Mus. rep. 48 (for 1894) 1895. 1:545-51 (2d paging).

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[a] Term first defined by Bell. Described by Logan. Can. Geol. Surv. 1863. p. 298-344.

Gypsum *(continued)*

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Parsons. Recent Developments in the Gypsum Industry in New York State. Geol. rep. 20 (for 1900) 1902. p.r177-83. *Same*, Mus. rep. 54 (for 1900) 1902. 1:r177-83.

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Geddes. Hamilton Group of Onondaga County. Ag. Soc. Trans. 19 (for 1859) 1860. p.253.

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Map of the township of Hamburg, Erie co. (uncolored) 18x24.5cm.

Hall. Hamilton Group. Geol. N. Y. pt4. 1843. p.184-211. Pal. N. Y. 1859. 3:45-48.

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Hall. Hamilton Group in Livingston County. Geol. rep. 4th dist. (for 1839) 1840. p.421. Geol. N. Y. pt4. 1843. p.462.

Hall. Hamilton Group in Ontario County. Geol. rep. 4th dist. (for 1838) 1839. p.312-13. Geol. N. Y. pt4. 1843. p.457.

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Hamilton group (*continued*)

Hall. Hamilton Group in Tompkins County. Geol. N. Y. pt4. 1843. p.475.

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Luther. Hamilton Group in Livonia Salt Shaft. Geol. rep. 13 (for 1893) 1894. p. 39, 42-45. *Same*, Mus. rep. 47 (for 1893) 1894. p.233, 236-39.

Luther. Hamilton Group of Onondaga County. Geol. rep. 15 (for 1895) 1897. p.279-84. *Same*, Mus. rep. 49 (for 1895) 1898. 2:279-84.

Hamilton group *(continued)*

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Pt 1 Geologic map of parts of Chenango, Madison, Otsego, Schoharie and Albany counties, 58x33.5cm.

Pt 2 Map showing distribution of middle and upper Devonian rocks in central-eastern New York, 61x38.5cm.; map of Delaware county, by W. L. Fisher, 34x32cm.

Ries. Hamilton Group of Orange County. Geol. rep. 15 (for 1895) 1897. p.403-4. *Same*, Mus. rep. 49 (for 1895) 1898. 2:403-4.

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[a]Vanuxem. Hamilton Group. Geol. rep. 3d dist. (for 1839) 1840. p.380. Geol. N. Y. pt3. 1842. p.150-63.

Vanuxem. Hamilton Group in Broome County. Geol. N. Y. pt3. 1842. p.295.

Vanuxem. Hamilton Group in Cayuga County. Geol. N. Y. pt3. 1842. p.288-89.

Vanuxem. Hamilton Group in Chenango County. Geol. N. Y. pt3. 1842. p.292-93.

Vanuxem. Hamilton Group in Cortland County. Geol. N. Y. pt3. 1842. p.290.

Vanuxem. Hamilton Group in Madison County. Geol. N. Y. pt3. 1842. p.275-77.

Vanuxem. Hamilton Group in Oneida County. Geol. N. Y. pt3. 1842. p.264.

Vanuxem. Hamilton County in Onondaga County. Geol. N. Y. pt3. 1842. p.285.

Vanuxem. Hamilton Group in Otsego County. Geol. N. Y. pt3. 1842. p.254.

Vanuxem. Hamilton Group in Tompkins County. Geol. N. Y. pt3. 1842. p.298.

Vanuxem. Fossils. Geol. N. Y. pt3. 1842. p.151-53, 158-63, 306.

See also Hamilton shales; Marcellus shales; Tully limestone.

Hamilton shales. Bishop. Hamilton Shales of Erie County. Geol. rep. 15 (for 1895) 1897. p.316-20. *Same*, Mus. rep. 49 (for 1895) 1898. 2:316-20.

Clarke. Hamilton Shales of Ontario County. Geol. rep. 4 (for 1884) 1885. p.12-17.

Clarke & Schuchert. Hamilton Beds. *See* New York series.

Darton. Hamilton Flags and Shales; Hamilton Black Shales in Albany County. Geol. rep. 13 (for 1893) 1894. p.240-42. *Same*, Mus. rep. 47 (for 1893) 1894. p.434-36.

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[a] First use of term.

Hamilton shales (*continued*)

Darton. Hamilton Shales of Ulster County. Geol. rep. 13 (for 1893) 1894. p.300-1. *Same*, Mus. rep. 47 (for 1893) 1894. p.494-95.

Emmons. Hamilton Shales. Ag. N. Y. 1846. 1:183-86.

Grabau. Hamilton Shales. Geol. rep. 16 (for 1896) 1899. p.235-36. *Same*, Mus. rep. 50 (for 1896) 1899. 2:235-36.

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Harmatome. Beck. Harmatome. Min. N. Y. 1842. p.451.

Harrison diorite. Eckel. Quarries. Geol. rep. 20 (for 1900) 1902. p.r165-66. *Same*, Mus. rep. 54 (for 1900) 1902. 1:r165-66.

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[a]Mather. Helderberg Limestone Group. Geol. rep. 1st dist. (for 1839) 1840. p.212, 236-46; (for 1840) 1841. p.85-89.

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[a]Conrad. Helderberg Limestones. Pal. rep. (for 1838) 1839. p.62.

Darton. Report on the Relations of the Helderberg Limestones and Associated Formations in Eastern New York. Geol. rep. 13 (for 1893) 1894. p.197-228. pl. (phot.) *Same*, Mus. rep. 47 (for 1893) 1894. p.391-422. pl. (phot.)

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[a] First use of term.

Helderberg limestones (*continued*)

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Ries. Lower Helderberg Limestone of Cayuga County. Mus. bul. 44. 1901. p.773-74. *Same*, Mus. rep. 54 (for 1900) 1902. 3:773-74.

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See also Becraft limestone; Coeymans limestone; Helderberg division; Lower Helderberg group; Scutella limestone.

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Helderbergian (Lower Helderberg). Clarke & Schuchert. Helderbergian. Mus. mem. 3. 1900. p.10. *Same*, Mus. rep. 53 (for 1899) 1901. 2:10.

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Hematite. Beck. Specular Iron Ore. Min. rep. (for 1836) 1837. p.28-32 (ed. 2, p.30-34); (for 1838) 1839. p.46. Min. N. Y. 1842. p. 23-26, 385-86.

Conrad. Red Oxide of Iron and Associated Strata. Geol. rep. 3d dist. (for 1836) 1837. p.176-77 (ed. 2, p.178-79).

Emmons. Specular Oxide of Iron. Geol. rep. 2d dist. (for 1837) 1838. p.206-8. Geol. N. Y. pt2. 1842. p.92-98.

Emmons. Hematitic Iron, or Limonite. Geol. N. Y. pt2. 1842. p.161-62.

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Emmons. Specular Oxide of Iron in Jefferson County. Geol. N. Y. pt2. 1842. p.376-77.

Hall. Specular Oxide of Iron. Geol. rep. 2d dist. (for 1836) 1837. p.136-38 (ed. 2, p.138-40).

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Smock. Hematite Ores of St Lawrence and Jefferson Counties. Mus. bul. 7. 1889. p.10-11, 44-48.

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See also Clinton ores; Iron ores.

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For dates of reports, *see* List of publications, p.264.

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Hemiptera (*continued*)

—— —— Ent. rep. 9 (for 1892) 1893. p.315-29. *Same*, Mus. rep. 46 (for 1892) 1893. p.315-29.

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The following list of species includes only the more important accounts by Lintner in Ent. rep. 1-13; by Felt in Ag. Soc. Trans. 59, Forest, Fish and Game Com. reports.

Acanthia lectularia. Ag. Soc. Trans. 59, p.299-300.

Blissus leucopterus. Ent. rep. 2, p.148-64.

Chermes pinicorticis. Forest, Fish and Game Com. rep. 7. *In press.*

Cicada septendecim. Ent. rep. 12, p.272-89. *Same*, Mus. rep. 50, 1:272-89 (1st paging).

Lygus pratensis. Ent. rep. 13, p.351-57. *Same*, Mus. rep. 51, 1:351-57.

Poecilocapsus lineatus. Ent. rep. 1, p.271-81.

Psylla pyricola. Ent. rep. 9, p.317-29. *Same*, Mus. rep. 46, p.317-29.

Hemiptera. *Scale insects.* Felt. Experiments on Scale Insects. Ent. rep. 16 (for 1900) 1901. p.967-88 (Mus. bul. 36). *Same*, Mus. rep. 54 (for 1900) 1902. 2:967-88.

—— —— Ent. rep. 17 (for 1901) 1902. p.761-75. (Mus. bul. 53).

—— —— Ent. rep. 18 (for 1902). p.126-43. *In press.*

Felt. Scale Insects of Importance and a List of the Species in New York. Mus. bul. 46. 1901. p.289-377. 7pl. (lith.) 8pl. phot. *Same*, Mus. rep. 54 (for 1900) 1902. 4:289-377. 7pl. (lith.) 8pl. (phot.)

Lintner. Species Treated. Ent. rep. 4 (for 1887) 1888. p.114-20. *Same*, Mus. rep. 41 (for 1887) 1888. p.234-40.

—— Ent. rep. 6 (for 1889) 1890. p.141-47. *Same*, Mus. rep. 43 (for 1889) 1890. p.141-47.

—— Ent. rep. 11 (for 1895) 1896. p.200-33. *Same*, Mus. rep. 49 (for 1895) 1897. 1:200-33.

—— Ent. rep. 12 (for 1896) 1897. p.292-98. *Same*, Mus. rep. 50 (for 1896) 1898. 1:292-98 (1st paging).

Species

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Aspidiotus ancylus. Putnam's scale insect. Mus. bul. 46, p.326-30. *Same*, Mus. rep. 54, 4:326-30.

Aspidiotus forbesi. Cherry scale insect. Mus. bul. 46, p.330-32. *Same*, Mus. rep. 54, 4:330-32.

Aspidiotus hederae. Ivy scale insect. Ent. rep. 11, p.203-4. *Same*, Mus. rep. 49, 1:203-4.

—— Mus. bul. 46, p.333-36. *Same*, Mus. rep. 54, 4:333-36.

Aspidiotus ostreaeformis. European fruit tree scale insect. Mus. bul. 46, p.323-26. *Same*, Mus. rep.54, 4:323-26.

Aspidiotus perniciosus. San José scale insect. Ent. rep. 11, p.200-33. *Same*, Mus. rep. 49, 1:200-33.

Hemiptera. *Scale insects (continued)*

—— Mus. bul. 13, p.263-305. *Same*, Mus. rep. 48, 1:263-305 (2d paging).

—— Ent. rep. 16, p.967-88. *Same*, Mus. rep. 54, 2:967-88.

—— Mus. bul. 46, p.304-23, 336-42. *Same*, Mus. rep. 54, 4:304-23, 336-42.

—— Ent. rep. 17, p.761-75. (Mus. bul. 53).

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Chionaspis furfura. Scurfy bark louse. Mus. bul. 46, p.300-4. *Same*, Mus. rep. 54, 4:300-4.

Chionaspis pinifoliae. Pine leaf scale insect. Forest, Fish and Game Com. rep. 7. *In press.*

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—— Mus. bul. 27, p.46. *Same*, Mus. rep. 53, 1:46.

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Mytilaspis pomorum. Appletree bark louse. Ent. rep. 4, p.114-20. *Same*, Mus. rep. 41, p.234-40.

—— Mus. bul. 46, p.297-300. *Same*, Mus. rep. 54, 4:297-300.

Pulvinaria innumerabilis. Cottony maple tree insect. Ent. rep. 6, p.141-47. *Same*, Mus. rep. 43, p.141-47.

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Hepatic springs, *see* Sulfur springs.

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Herkimer county. Beck. Mineralogy. Min. rep. (for 1839) 1840. p.69-70.

Cushing. Pre-Cambrian Outlier at Little Falls. Geol. rep. 20 (for 1900) 1902. p.r83-95. *Same*, Mus. rep. 54 (for 1900) 1902. 1:r83-95.

Darton. Geology of the Mohawk Valley in Herkimer, Fulton, Montgomery and Saratoga Counties. Geol. rep. 13 (for 1893) 1894. p.407-29. pl. (phot.) *Same*, Mus. rep. 47. (for 1893) 1894. p.601-23. pl. (phot.)

Darton. Faulted Region. Geol. rep. 14 (for 1894) 1895. p.11-12, 31-53. pl. (phot.) map. *Same*, Mus. rep. 48 (for 1894) 1895. 2:11-12, 31-53. pl. (phot.) map.

Preliminary geologic map of portions of Herkimer, Fulton, Montgomery, Saratoga and adjacent counties (uncolored) 28.5x16.5cm.

Felt. Entomological Reports from. Ent. rep. 15 (for 1899) 1900. p.561. (Mus. bul. 31). *Same*, Mus. rep. 53 (for 1899) 1901. 1:561.

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—— —— Ent. rep. 18 (for 1902). p.148-49. *In press.*

Ries. Brick Yards. Mus. bul. 12. 1895. p.197, 198, 246. *Same*, Mus. rep. 48 (for 1894) 1895. 1:197, 198, 246 (2d paging).

—— —— Mus. bul. 35. 1900. p.713, 714. *Same*, Mus. rep. 54 (for 1900) 1902. 2:713, 714.

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Herkimer county (*continued*)

Smock. Building Stone Quarries. Mus. bul. 3. 1888. p.32, 71, 112-13; 10. 1890. p.232, 246, 250, 273.

—— —— *revised* by Merrill. Mus. bul. 15. 1895. p.378, 395-96, 439, 443. *Same*, Mus. rep. 48 (for 1894) 1895. 1:378, 395-96, 439, 443 (2d paging).

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White. Report on the Relations of the Ordovician and Eo-Silurian Rocks in Portions of Herkimer, Oneida and Lewis Counties. Mus. rep. 51 (for 1897) 1899. 1:r21-54. pl. (phot.) 2 maps.

Map of the vicinity of Frankfort hill, 31.5x16.5cm.
Map of the Precambrian border in Oneida and Lewis counties, 49.5x16cm.

Young. List of Coleoptera taken at Newport, Herkimer co., N. Y. Ent. rep. 18 (for 1902). p.153-61. *In press.*

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Whitlock. Heulandite. Mus. bul. 58. 1902. p.109.

Hickory borer. Lintner. Painted Hickory Borer. Ent. rep. 8 (for 1891) 1893. p.175-76. *Same*, Mus. rep. 45 (for 1891) 1892. p.175-76.

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Highlands of Hudson. Mather. Altered Taconic Rocks. Geol. N. Y. pt1. 1843. p.446-50.

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Mather. Miscellaneous Remarks. Geol. N. Y. pt1. 1843. p.542-58.

Mather. Magnetic Oxide of Iron. Geol. N. Y. pt1. 1843. p.559-75.

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Map of Archaean areas of Highlands (uncolored) 11x18.5cm.

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—— —— *revised* by Merrill. Mus. bul. 15. 1895. p.530-32. *Same*, Mus. rep. 48 (for 1894) 1895. 1:530-32 (2d paging).

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See also Dutchess county; Orange county; Putnam county.

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Catalogue. Mus. rep. 2 (for 1848) 1849. p.71-79.

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Horn implements. Beauchamp. Horn and Bone Implements of New York Indians. Mus. bul. 50. 1902. 112p. 43pl. (phot.)

Hornblende. Beck. Hornblende. Min. N. Y. 1842. p.298-308. Mus. rep. 3 *rev. ed.* (for 1849) 1850. p.134.

Emmons. Gneiss, Hornblende and Granular Limestone. Geol. rep. 2d dist. (for 1836) 1837. p.113-16 (ed. 2, p.115-18).

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Hornblende *(continued)*

Emmons. Hornblende and Gneiss in Essex County. Geol. N. Y. pt2. 1842. p.229-31.

Emmons. Gneiss and Hornblende of St Lawrence County. Geol. N. Y. pt2. 1842. p.340-41.

Horton. Hornblende Rock of Orange County. Geol. rep. 1st dist. (for 1838) 1839. p.137-39.

Hunt. Hornblende. Mus. rep. 21 (for 1867) 1871. p.77-78.

Mather. Hornblendic Rocks. Geol. N. Y. pt1. 1843. p.533-34, 541.

Merrill. Hornblende. Mus. bul. 19. 1898. p.121. *Same*, Mus. rep. 51 (for 1897) 1899. 1:121.

Whitlock. Amphibole (Hornblende). Mus. bul. 58. 1902. p.94-96.

See also Amphibole.

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Hudson river. Mather. Fluviatile Alluvions. Geol. rep. 1st dist. (for 1837) 1838. p.143-46. Geol. N. Y. pt1. 1843. p.4-10.

Hudson river bluestone. Merrill. Directory of Quarrymen. Mus. bul. 15. 1895. p.458-84. *Same*, Mus. rep. 48 (for 1894) 1895. 1:458-84 (2d paging).

Smock. Quarries. Mus. bul. 3. 1888. p.71-78, 146; 10. 1890. p.222-23, 265-71.

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[a] First use of term.

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[a] First use of term.

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[a] First use of term in original publication of this article. Science. 1899. new ser. 10:878.

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—— —— Ent. rep. 1 (for 1881) 1882. p.81-167, 333-41.

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Alypia octomaculata. Ent. rep. 5, p.179-83. *Same*, Mus. rep. 42, p.179-83.

Anisota senatoria. Ent. rep. 5. p.192-200. *Same*, Mus. rep. 42, p.192-200.

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Bucculatrix pomifoliella. Ent. rep. 1, p.157-62.

Cacoecia fervidana. Forest, Fish and Game Com. rep. 7. *In press.*

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Cerura candida. Mus. rep. 30, p.199-200.

Cerura occidentalis. Mus. rep. 30, p.194-95.

Cidaria packardata. Mus. rep. 30,p.225-26.

Clisiocampa americana. Ent. rep. 14, p.117-90. (Mus. bul. 23). *Same*, Mus rep. 52, 1:177-90.

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Cucullia intermedia. Mus. rep. 23, p.217-22.

Cucullia lucifuga. Mus. rep. 23, p.217-22.

Cucullia serraticornis. Mus. rep. 26, p.174-76.

Cucullia speyeri. Mus. rep. 26, p.168-74.

Diastictis ribearia. Ent. rep. 12, p.310-11. *Same*, Mus. rep. 50, 1:310-11 (1st paging).

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Eudamus epigena. Mus. rep. 30, p.181-82.

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Euvanessa antiopa. Forest, Fish and Game Com. rep. 5, p.368-71.
Heliothis armiger. Ent. rep. 1, p.116-26.
Hemileuca maia. Mus. rep. 23, p.137-53.
—— Forest, Fish and Game Com. rep. 7. *In press.*
Hydroecia nitela. Ent. rep. 1, p.110-16.
Hyphantria cunea. Forest, Fish and Game Com. rep. 5, p.363-68.
Hypocala hilli. Mus. rep. 30, p.217-19.
Leucania unipuncta. Ent. rep. 12, p.190-214. *Same,* Mus. rep. 50, 1:190-214 (1st paging).
Lycaena lotis. Mus. rep. 30, p.169-70.
Mamestra picta. Ent. rep. 5, p.206-10. *Same,* Mus. rep. 42, p.206-10.
—— Ent. rep. 14, p.201-7. (Mus. bul. 23). *Same,* Mus. rep. 52, 1:201-7.
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Melitaea nycteis. Mus. rep. 23, p.158-59.
Melitaea phaeton. Mus. rep. 23, p.154-57.
Melitta satyriniformis. Ent. rep. 2, p.57-68.
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Peridroma saucia. Ent. rep. 5, p.200-6. *Same,* Mus. rep. 42, p.200-6.
Pieris oleracea. Mus. rep. 23, p.160-61.
Porthetria dispar. Ent. rep. 9, p.422-26. *Same,* Mus. rep. 46, p.422-26.
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Map of New York State showing location of limestone quarries and marl deposits and manufactories of natural and Portland cement (uncolored) 72x74cm.

Map of New York State showing distribution of limestone (uncolored) 44.5x35cm.

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Hall. Bog and Argillaceous Iron of Wayne County. Geol. N. Y. pt4. 1843. p.419.

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Mather. Limonite in Putnam and Westchester Counties. Geol. rep. 1st dist. (for 1838) 1839. p.107-8.

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Limonite (*continued*)

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Livonia salt shaft (*continued*)

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Map showing area of New York covered by Onondaga salt group, 37x14.5cm.

Map showing salt-producing district of western New York, 34.5x21.5cm (in Geol. rep. only).

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Llandeilo flags. Conrad. Llandeilo Flags of Murchison. Pal. rep. (for 1837) 1838. p.114.

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Mather. Geological Map of Long and Staten Islands with the Environs of New York. 129x56.5cm. Geol. N. Y. pt1. 1843. pl.1.

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[a] First use of term.

Long Island (*continued*)

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Scott. Notes on the Marine Food Fishes of Long Island and a Biologic Reconnaissance of Cold Spring Harbor. Mus. rep. 54 (for 1900) 1902. p.r214-29.

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Louisville limestones. Hall. Louisville Limestones; Notes on the Hydraulic Beds and Associated Limestones at the Falls of the Ohio. Pal. N. Y. 1879. v.5. pt2. p.139-47.

Lower Helderberg group (Becraft; Coeymans; Helderberg; Helderbergian; New Scotland). Clarke. Faunal Characters. Geol. rep. 8 (for 1888) 1889. p.82-91. *Same*, Mus. rep. 42 (for 1888) 1889. p.428-37.

Girty. Revision of the Sponges and Coelenterates of the Lower Helderberg Group of New York. Geol. rep. 14 (for 1894) 1895. p.16, 259-309. 7pl. *Same*, Mus. rep. 48 (for 1894) 1895. 2:16, 259-309. 7pl.

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Hall. Descriptions of Bryozoa and Corals of the Lower Helderberg Group. Mus. rep. 26 (for 1872) 1874. p.93-115.

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[a] First use of term.

Lower Helderberg group *(continued)*

—— —— 33 Plates and Explanations illustrating Corals and Bryozoans of Upper and Lower Helderberg Groups. Geol. rep. 2 (for 1882) 1883.

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Hall. Some Remarkable Crinoidal Forms from the Lower Helderberg Group. Mus. rep. 28 (for 1874) 1879. p.205-10. pl.35-37.

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Map of the Precambrian border in Oneida and Lewis counties, 49.5x16cm.

See also Champlainic; *also names of subdivisions; also names of classes of fossils*, i. e. Brachiopoda, Cephalopoda, etc.

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[a] First use of term in original publication of this article. Science. 1899. new ser. 10:877.

[b] First use of term.

Madison county (*continued*)

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[a] First use of term.

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Marcellus shales (*continued*)
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*a*Hall. Marcellus Shales in Seneca County. Geol. rep. 4th dist. (for 1838) 1839. p.295-96. Geol. N. Y. pt4. 1843. p.451.
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Geologic map of a part of southeastern New York, 58x66cm.

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Pt 2 Description of mineral species.

See also names of minerals.

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See also Iron.

Mispickel, *see* Arsenopyrite.

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Mohawk limestone. [a]Conrad. Mohawk Limestone. Pal. rep. (for 1838) 1839. p.63; (for 1840) 1841. p.29.

Emmons. Mohawk Limestone of Jefferson County. Geol. rep. 2d dist. (for 1839) 1840. p.324.

Mather. Mohawk Limestone. Geol. rep. 1st dist. (for 1840) 1841. p.91, 98-101. Geol. N. Y. pt1. 1843. p.402-6.

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See also Mohawkian.

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[a] First use of term.

Mohawk river valley (*continued*)

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Preliminary geologic map of portions of Herkimer, Fulton, Montgomery, Saratoga and adjacent counties (uncolored) 28.5x16.5cm.

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See also Geological survey 3d district.

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See also Utica shale.

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For dates of Mus. rep. *see* List of publications, p.241.

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Catalogue of Shells presented by William Newcomb. Mus. rep. 11 (for 1857) 1858. p.37-42.

Catalogue of Shells from J. G. Anthony. Mus. rep. 15 (for 1861) 1862. p.15-21.

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Catalogue of Shells presented to the State Museum by the Smithsonian Institution in 1865 and 1866. Mus. rep. 20 (for 1866) 1867. p.19-54.

Mollusca (*continued*)

Catalogue of European Shells, presented to the State Museum by the Smithsonian Institution in 1869. Mus. rep. 25 (for 1871) 1873. p.39-55.

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List of Gould Types of Mollusca in State Museum Collection. Mus. rep. 27 (for 1873) 1875. p.47-55.

List of Land and Fresh-water Shells presented to State Museum by T. H. Aldrich. Mus. rep. 27 (for 1873) 1875. p.43-46.

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Marshall. List of Shells inhabiting the Vicinity of Albany and Troy, N. Y. Mus. rep. 48 (for 1894) 1895. 1:641-47.

See also Brachiopoda; Cephalopoda; Gastropoda; Lamellibranchiata; Pteropoda; Unionidae.

Mollusca (paleozoic), *see* Brachiopoda; Cephalopoda; Gastropoda; Lamellibranchiata; Pteropoda.

Molluscoidea, *see* Bryozoa.

Molybdenite. Beck. Sulphuret of Molybdenum. Min. rep. (for 1836) 1837. p.59 (ed. 2, p.61). Min. N. Y. 1842. p.438-39.

Hunt. Sulphuret of Molybdenum. Mus. rep. 21 (for 1867) 1871. p.91.

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—— —— Mus. bul. 19. 1898. p.233. *Same*, Mus. rep. 51 (for 1897) 1899. 1:233.

Monazite. Beck. Monazite. Min. N. Y. 1842. p.452. Mus. rep. 3 *rev. ed.* (for 1849) 1850. p.152.

Whitlock. Monazite. Mus. bul. 58. 1902. p.117.

Monroe county. Beck. Mineralogy. Min. rep. (for 1839) 1840. p.76-77.

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Felt. Entomological Reports from. Ent. rep. 15 (for 1899) 1900. p.563-64. (Mus. bul. 31). *Same*, Mus. rep. 53 (for 1899) 1901. 1:563-64.

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Hall. Monroe County. Geol. rep. 4th dist. (for 1837) 1838. p.327-47. Geol. N. Y. pt4. 1843. p.422-33.

Monroe county (*continued*)

Ries. Brick Yards. Mus. bul. 12. 1895. p.203-4, 248. *Same*, Mus. rep. 48 (for 1894) 1895. 1:203-4, 248 (2d paging).

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Smock. Building Stone Quarries. Mus. bul. 3. 1888. p.59, 133; 10. 1890. p.253, 254, 261-62.

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Monroe shales. Ries. Monroe Shales of Orange County. Geol. rep. 15 (for 1895) 1897. p.404. *Same*, Mus. rep. 49 (for 1895) 1898. 2:404.

Montgomery county. Beck. Mineralogy. Min. rep. (for 1839) 1840. p.77.

Cumings. Lower Silurian System of Eastern Montgomery County. Mus. bul. 34. 1900. p.415-68. 4pl. (phot.) map. *Same*, Mus. rep. 54 (for 1900) 1902. 1:415-68. 4pl. (phot.) map.
Geologic map of Amsterdam quadrangle, 44x32.5cm.

Darton. Geology of the Mohawk Valley in Herkimer, Fulton, Montgomery and Saratoga Counties. Geol. rep. 13 (for 1893) 1894. p.407-29. pl. (phot.) *Same*, Mus. rep. 47 (for 1893) 1894. p.601-23. pl. (phot.)

Darton. Faulted Region. Geol. rep. 14 (for 1894) 1895. p.11-12, 31-53. pl. (phot.) map. *Same*, Mus. rep. 48 (for 1894) 1895. 2:11-12, 31-53. pl. (phot.) map.
Preliminary geologic map of portions of Herkimer, Fulton, Montgomery, Saratoga and adjacent counties (uncolored) 28.5x16.5cm.

Felt. Entomological Reports from. Ent. rep. 16 (for 1900) 1901. p.1014. (Mus. bul. 36). *Same*, Mus. rep. 54 (for 1900) 1902. 2:1014.

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Kemp & Hill. Precambrian Formations. Geol. rep. 19 (for 1899) 1901. p.r17-35. pl. (phot.) maps. *Same*, Mus. rep. 53 (for 1899) 1901. 1:r17-35. pl. (phot.) maps.
Small, uncolored geologic maps.
Map of the " Noses " (colored).

Ries. Brick Yards. Mus. bul. 12. 1895. p.197, 198, 246. *Same*, Mus. rep. 48 (for 1894) 1895. 1:197, 198, 246 (2d paging).

—— —— Mus. bul. 35. 1900. p.713, 714. *Same*, Mus. rep. 54 (for 1900) 1902. 2:713, 714.

Ries. Limestones. Geol. rep. 17 (for 1897) 1899. p.442-44. *Same*, Mus. rep. 51 (for 1897) 1899. 2:442-44.

—— —— *revised*. Mus. bul. 44. 1901. p.798-99. *Same*, Mus. rep. 54 (for 1900) 1902. 3:798-99.

Smock. Building Stone Quarries. Mus. bul. 3. 1888. p.106-12; 10. 1890. p.243-45.

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Vanuxem. Montgomery County. Geol. rep. 3d dist. (for 1837) 1838. p.257-66. Geol. N. Y. pt3. 1842. p.249-53.

Montrose sandstone (Oneonta; Portage). [a]Vanuxem. Montrose Sandstone, or Sandstone of Oneonta. Geol. rep. 3d dist. (for 1839) 1840. p.381.

See also Oneonta sandstone; Portage sandstone.

Mooers quadrangle. Cushing. Geology of Rand Hill and Vicinity, Clinton County. Geol. rep. 19 (for 1899) 1901. p.r37-82. 2 maps. *Same*, Mus. rep. 53 (for 1899) 1901. 1:r37-82. 2 maps.
Geologic maps of parts of Clinton county, 33x22, 10.5x5cm.

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[a] First use of term.

Mortar. Ries. Mortar. Geol. rep. 17 (for 1897) 1899. p.386. *Same*, Mus. rep. 51 (for 1897) 1899. 2:386.

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Moscow shale. Bishop. Moscow Shale of Erie County. Geol. rep. 15 (for 1895) 1897. p.320. *Same*, Mus. rep. 49 (for 1895) 1898. 2:320.

Conrad. Moscow shales. Pal. rep. (for 1839) 1840. p.206.

Delafield. Moscow Shale of Seneca County. Ag. Soc. Trans. 10 (for 1850) 1851. p.455.

Emmons. Moscow Shales. Ag. N. Y. 1846. 1:188.

Grabau. Moscow Shales. Geol. rep. 16 (for 1896) 1899. p.234-35. *Same*, Mus. rep. 50 (for 1896) 1899. 2:234-35.

[a]Hall. Moscow Shales. Geol. rep. 4th dist. (for 1838) 1839. p.298-300. Geol. N. Y. pt4. 1843. p.187.

Hall. Moscow Shale in Erie County. Geol. rep. 4th dist. (for 1840) 1841. p.163-64. Geol. N. Y. pt4. 1843. p.473.

Hall. Moscow Shale of Genesee County. Geol. rep. 4th dist. (for 1839) 1840. p.430. Geol. N. Y. pt4. 1843. p.467.

Hall. Moscow Shale in Livingston County. Geol. rep. 4th dist. (for 1839) 1840. p.421. Geol. N. Y. pt4. 1843. p.462.

Hall. Moscow Shale of Yates County. Geol. rep. 4th dist. (for 1838) 1839. p.316-17.

Luther. Moscow Shales in Livonia Salt Shaft. Geol. rep. 13 (for 1893) 1894. p.42. *Same*, Mus. rep. 47 (for 1893) 1894. p.236.

Wright. Moscow Shale in Yates County. Mus. rep. 35 (for 1881) 1884. p.203-4.

Vanuxem. Moscow Shales. Geol. rep. 3d dist. (for 1839) 1840. p.380.

See also Erie division; Hamilton group.

Mosquito. Lintner. The Mosquito. Ent. rep. 12 (for 1896) 1897. p.319-35. *Same*, Mus. rep. 50 (for 1896) 1898. 1:319-35.

Mosses. Peck. Catalogue of Mosses presented to the State of New York by C. H. Peck. Mus. rep. 18 (for 1864) 1865. p.193-96.

Peck. List of Mosses of the State of New York. Mus. rep. 19 (for 1865) 1866. p.42-70.

Peck. The Mosses of Caledonia Creek. Mus. rep. 32 (for 1878) 1879. p.73-74.

Moths, *see* Lepidoptera.

Mound builders, *see* Aborigines.

Mounds. Vanuxem. Mounds. Geol. N. Y. pt3. 1842. p.247-48.

Mt Marcy, *see* Adirondacks.

Mt Seward. Colvin. Ascent of Mt Seward and its Barometrical Measurement. Mus. rep. 24 (for 1870) 1872. p.171-80. 1pl.

Mountains. Hall. Theory of Formation. Pal. N. Y. 1859. 3:66-73, 82-88, 95-96.

Muck swamps. Hall. Muck Swamps. Geol. rep. 4th dist. (for 1839) 1840. p.444-45. Geol. N. Y. pt4. 1843. p.359-60.

Muriate of lime, *see* Chlorid of lime.

Muscovite. Merrill. Localities. Mus. bul. 15. 1895. p.582. *Same*, Mus. rep. 48 (for 1894) 1895. 1:582 (2d paging).

—— —— Mus. bul. 19. 1898. p.234. *Same*, Mus. rep. 51 (for 1897) 1899. 1:234.

Merrill. Muscovite. Mus. bul. 19. 1898. p.122. *Same*, Mus. rep. 51 (for 1897) 1899. 1:122.

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[a] First use of term.

Muscovite (*continued*)

Nason. Muscovite. Mus. bul. 4. 1888. p.9.

Whitlock. Muscovite. Mus. bul. 58. 1902. p.110-11.

Museums. Merrill. Directory of Natural History Museums in United States and Canada. Mus. bul. 62. *In press.*

Nevius, *comp.* Preliminary List of Public Geological and Mineralogical Collections in the United States and Canada. Mus. rep. 50 (for 1896) 1898. 1:45-74 (1st paging).

See also New York State Museum.

Mushroom phora. Lintner. Mushroom Phora. Ent. rep. 10 (for 1894) 1895. p.399-406. *Same,* Mus. rep. 48 (for 1894) 1895. 1:399-406 (1st paging).

Mushrooms, *see* Fungi.

Myriapoda. Additions to Collection. Ent. rep. 3, p.142; 4, p.208; 5, p.326; 6, p.190; 7, p.384; 9, p.464; 10, p.513, 519; 12, p.364; 13, p.375; 14, p.263; 15, p.620.

For dates of reports, *see* List of publications, p.264.

Nantucket pine moth. Felt. Nantucket Pine Moth. Forest, Fish and Game Com. rep. 7 (for 1901). *In press.*

Naphtha. Beck. Naphtha. Min. N. Y. 1842. p.183.

Naples quadrangle. Clarke. Stratigraphy of the Canandaigua and Naples Quadrangles. Mus. bul. 63. 2 maps. *In press.*

[a]**Naples shales (Cashaqua; Gardeau; Portage).** Clarke. Annelid Teeth from the Lower Portion of the Hamilton Group and from the Naples Shales of Ontario County, N. Y. Geol. rep. 6 (for 1886) 1887. p.30-32. 1pl.

Clarke. Naples Fauna. Geol. rep. 15 (for 1895) 1897. p.52-57. *Same,* Mus. rep. 49 (for 1895) 1898. 2:52-57.

Clarke. The Naples Fauna (fauna with Manticoceras intumescens) in Western New York. Geol. rep. 16 (for 1896) 1899. p.29-161. illus. 9pl. *Same,* Mus. rep. 50 (for 1896) 1899. 2:29-161. illus. 9pl.

Clarke. Naples Fauna. Mus. bul. 52. 1902. p.670.

Clarke. Naples Fauna in Western New York. Mus. mem. 6. *In press.*

Clarke & Schuchert. Naples Beds. *See* New York series.

Grabau. Naples Shales. Geol. rep. 16 (for 1896) 1899. p.233-34. *Same,* Mus. rep. 50 (for 1896) 1899. 2:233-34.

See also Cashaqua shale; Gardeau group; Portage group.

Naples valley. Luther. Stratigraphic Position of the Portage Sandstones in the Naples Valley and the Adjoining Region. Geol. rep. 15 (for 1895) 1897. p.13-14, 223-36. pl. (phot.) map. *Same,* Mus. rep. 49 (for 1895) 1898. 2:13-14, 223-36. pl. (phot.) map.

Geologic map of the township of Naples, 17x16.5cm.

Nassau county. Woodworth. Pleistocene Geology of Portions of Nassau County and Borough of Queens. Mus. bul. 48. 1901. p.617-64. pl. (phot.) maps. *Same,* Mus. rep. 54 (for 1900) 1902. 4:617-64. pl. (phot.) maps.

Sketch map of a part of Long Island, 22.5x18.5cm.

Natrolite. Beck. Natrolite. Min. N. Y. 1842. p.344.

Whitlock. Natrolite. Mus. bul. 58. 1902. p.110.

Natron. Beck. Carbonate of Soda. Natron. Min. rep. (for 1838) 1839. p.17. Min. N. Y. 1842. p.197-98.

Natural gas. Bishop. Natural Gas of Erie County. Geol. rep. 15 (for 1895) 1897. p. 346-89. *Same,* Mus. rep. 49 (for 1895) 1898. 2:346-89.

—— —— Geol. rep. 17 (for 1897) 1899. p.25-26. *Same,* Mus. rep. 51 (for 1897) 1899. 2:25-26.

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[a] Term proposed by J. M. Clarke in 1885, *see* U. S. Geol. Surv. Bul. 16. p.36.

Natural gas (*continued*)

Bishop. Report on Petroleum and Natural Gas in Western New York. Geol. rep. 17 (for 1897) 1899. p.9-63. map. *Same*, Mus. rep. 51 (for 1897) 1899. 2:9-63. map.

Map of the Cattaraugus oil and gas district, 34.5x24cm.

Bishop. Oil and Gas in Southwestern New York. Geol. rep. 19 (for 1899) 1901. p.r105-34. map. *Same*, Mus. rep. 53 (for 1899) 1901. 1:r105-34. map.

Map of a portion of Allegany county, N. Y. showing the outline of the proven oil and gas territory. Aug. 1, 1899, by John W. Greenwood, 25.5x17cm.

Lincoln. Gas Wells of Seneca County. Geol. rep. 14 (for 1894) 1895. p.120-22. *Same*, Mus. rep. 48 (for 1894) 1895. 2:120-22.

Merrill. Petroleum and Illuminating Gas. Mus. bul. 15. 1895. p.557-60. *Same*, Mus. rep. 48 (for 1894) 1895. 1:557-60 (2d paging).

—— —— Mus. bul. 19. 1898. p.227-28. *Same*, Mus. rep. 51 (for 1897) 1899. 1:227-28.

Nason. Natural Gas in Albany County. Geol. rep. 13 (for 1893) 1894. p.281-82. *Same*, Mus. rep. 47 (for 1893) 1894. p.475-76.

Orton. Petroleum and Natural Gas in New York. Mus. bul. 30. 1899. p.395-526. 3 maps. *Same*, Mus. rep. 53 (for 1899) 1901. 1:395-526. 3 maps.

Map of Oswego county and Onondaga county, 23x13cm.
Lake shore belt of Chautauqua county, 22x7cm.
Sketch map of central New York, 14x9cm.

See also Petroleum.

Natural history. Beck. Address delivered before the Lyceum of Natural History at its First Anniversary, March 1, 1824. Alb. Inst. Trans. 1830. 1:137-47.

References to Various Essays and Writings on the Natural History of New York. Mus. rep. 3 *rev. ed.* (for 1849) 1850. p.155-60; 4 (for 1850) 1851. p.113-16; 5 (for 1851) 1852. p.55-57.

Natural History Survey of the State of New York. New York Geological and Mineralogical Reports, 1837-41. 2v. Alb. 1840.

Reprinted from Assembly doc. 1837, no.161; 1838, no.200; 1839, no.275; 1840, no.50; 1841, no.150.

New York State. Natural History of New York. 1842-94. 30v. illus. pl. maps. Q.

a *Contents:* De Kay, J. E. Zoology of New York, 1842-44. Torrey, John. Flora of New York, 1843. Beck, L. C. Mineralogy of New York, 1842. Mather, Emmons, Vanuxem & Hall. Geology of New York. 1842-43. Emmons, Ebenezer, Agriculture of New York. 1846-54. Hall, James. Paleontology of New York. 1847-94.
Legislative and other documents: Report of the Secretary of State in relation to a Geological Survey of the State. 60p. Assembly doc. 1836, no.9.
Law passed 15 Ap. 1836. Ch. 142.
Descriptive Pamphlet issued by the Four Geologists. 1837. 8p.
Report of the Select Committee on so much of the Governor's Message as relates to the Geological Survey. 16p. Assembly doc. 1840, no.338.
Communication from the Governor in Relation to the Progress of the Geological Survey. 8p. Senate doc. 1842, no.68.
Report of the Secretary of State. 20p. Assembly doc. 1844, no.87.
Report of the Select Committee. 15p. Senate doc. 1845, no.123.
Report of the Minority of the Select Committee. 8p. Senate doc. 1845, no.124.
Communication from the Governor and Secretary of State Relative to the Disposal of the Volumes of the Natural History of the State. 5p. Assembly doc. 1846, no.41.
—— Report of the Regents of the University on the Condition of the Cabinets of Natural History, with documents from Emmons and Hall. 10p. Senate doc. 1846, no.91.
Report of the Select Committee. 16p. Assembly doc. 1846, no.172.
Act Authorizing an Abridged Publication of the Natural History of the State of New York. Assembly doc. 1846, no.172, 377.
Communication from Emmons relating to the Averill and Skinner Veins, Essex County. p.7-9. Assembly doc. 1847, no.211.
Report of the Committee on Literature on the Letter of Prof. Agassiz. 4p. Senate doc. 1847, no.155.
Report of the Select Committee appointed to investigate the Matters connected with the Publication of the State Work on Natural History. 178p. Assembly doc. 1850, no.9.
Review of the Report of the Select Committee. 8p.

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a *See also* List of publications, p.269, for fuller contents.

Natural History Survey of the State of New York (*continued*)

Strictures of E. Emmons upon Certain Parts of the Report of the Select Committee. 14p.

Report of the Committee of Ways and Means. 5p. Assembly doc. 1850, no.186.

Report of the Commissioners appointed to superintend the Completion of the Publication of the Natural History of the State of New York. 64p. Assembly doc. 1851, no.124.

—— 25p. Assembly doc. 1852, no.23.

—— 12p. Assembly doc. 1853, no.74.

—— 13p. Assembly doc. 1856, no.150.

Report of the Select Committee on the Completion of the Natural History of the State. 16p. Assembly doc. 1856, no.211.

Hall. Geological Survey of New York. Ag. Soc. Trans. 3 (for 1843) 1844. p.241-78.

Hall. Geological Survey. Public Service of the State of New York. 1882. 2:367-80.

Also published in Pop. Sci. Monthly, Ap. 1883. 22:815-25.

Hall. Reorganization of Survey recommended. Mus. rep. 44 (for 1890) 1892. p.15-16.

Materials belonging to the State used in publishing the Natural History and the Annual Reports. Mus. rep. 5 (for 1851) 1852. p.65-66; 6 (for 1852) 1853. p.31-32; 7 (for 1853) 1854. p.127; 8 (for 1854) 1855. p.41-44; 9 (for 1855) 1856. p.61-63.

Merrill. The Natural History Survey of New York and the Origin of the State Museum. Mus. bul. 19. 1898. p.240-45. *Same*, Mus. rep. 51 (for 1897) 1899. 1:240-45.

Merrill. History of the New York Geologic Surveys. Mus. bul. 56. 1902. p.5-10.

Map of New York showing geologic districts, 22.5x17.5cm.

Order of Publication of the Volumes. Mus. rep. 7 (for 1853) 1854. p.125.

Vanuxem. Division of Districts of Geological Survey. Geol. rep. 4th dist. (for 1836) 1837. p.209-10 (ed. 2, p.211-12).

See also New York State Museum.

Natural rock cement, *see* Cement.

Neelytown limestone. Ries. Neelytown Limestone. Geol. rep. 15 (for 1895) 1897. p.442-43. *Same*, Mus. rep. 49 (for 1895) 1898. 2:442-43.

See also Black river limestone.

Nemalite. Beck. Nemalite. Min. N. Y. 1842. p.272. Mus. rep. 3 *rev. ed.* (for 1849) 1850. p.131-32.

Nephelite. Whitlock. Nephelite. Mus. bul. 58. 1902. p.97.

Neuropteroid insects. Additions to Collection. Ent. rep. 4, p.208; 5, p.326; 6, p.189; 8, p.300; 9, p.464; 10, p.512; 11, p.288; 12, p.364; 13, p.375; 14, p.259, 262; 15, p.613, 619; 16, p.1042, 1046; 17, p.819, 824; 18, p.174.

For dates of reports, *see* List of publications, p.264.

Felt. Species Treated. Ent. rep. 10 (for 1894) 1895. p.463-80. *Same*, Mus. rep. 48 (for 1894) 1895. 1:463-80 (1st paging).

—— —— Ent. rep. 14 (for 1898) 1898. p.216-18. (Mus. bul. 23). *Same*, Mus. rep. 52 (for 1898) 1900. 1:216-18.

—— —— Forest, Fish and Game Com. rep. 6 (for 1900) 1901. p.503-28.

Lintner. Species Treated. Ent. rep. 2 (for 1882 and 1883) 1885. p.198-210, 235-41.

—— —— Ent. rep. 4 (for 1887) 1888. p.121-24. *Same*, Mus. rep. 41 (for 1887) 1888. p. 241-44.

—— —— Ent. rep. 8 (for 1891) 1893. p.155-62. *Same*, Mus. rep. 45 (for 1891) 1892. p.155-62.

—— —— Ent. rep. 11 (for 1895) 1896. p.234-54. *Same*, Mus. rep. 49 (for 1895) 1897. 1:234-54.

—— —— Ent. rep. 12 (for 1896) 1897. p.298-99. *Same*, Mus. rep. 50 (for 1896) 1898. 1:298-99 (1st paging).

Neuropteroid insects (*continued*)

Needham & Betten. Species Treated. Mus. bul. 47. 1901. p.412-573. *Same*, Mus. rep. 54 (for 1901) 1902. 4:412-573.

Needham & *others*. Species Treated. Mus. bul. 68. *In press.*

Species

The following list of species includes only the more important accounts by Lintner, in Ent. rep. 11; by Felt in Ent. rep. 10, 14, Ag. Soc. Trans. 59; by Needham and others in Mus. bul. 47. For dates of reports and bulletins, *see* p.264.

Anax junius. Mus. bul. 47, p.471-72. *Same*, Mus. rep. 54, 4:471-72.

Baetis pygmea. Mus. bul. 47, p. 421-23. *Same*, Mus. rep. 54, 4:421-23.

Basiaeschna janata. Mus. bul. 47, p.466-67. *Same*, Mus. rep. 54, 4:466-67.

Bittacus. Ent. rep. 10, p.463-80. *Same*, Mus. rep. 48, 1:463-80.

Boyeria vinosa. Mus. bul. 47, p.464-66. *Same*, Mus. rep. 54, 4:464-66.

Caenis diminuta. Mus. bul. 47, p.426-27. *Same*, Mus. rep. 54, 4:426-27.

Celithemis elisa. Mus. bul. 47, p.515. *Same*, Mus. rep. 54, 4:515.

Celithemis eponina. Mus. bul. 47, p.514-15. *Same*, Mus. rep. 54, 4:514-15.

Chloroperla bilineata. Mus. bul. 47, p.414-15. *Same*, Mus. rep. 54, 4:414-15.

Climacia dictyona. Mus. bul. 47, p.558-60. *Same*, Mus. rep. 54, 4:558-60.

Cordulegaster maculatus. Mus. bul. 47, p.476-77. *Same*, Mus. rep. 54, 4:476-77.

Cordulia shurtleffi. Mus. bul. 47, p.502-3. *Same*, Mus. rep. 54, 4:502-3.

Didymops transversa. Mus. bul. 47. p.481-82. *Same*, Mus. rep. 54, 4:481-82.

Dorocordulia libera. Mus. bul. 47, p.504-5. *Same*, Mus. rep. 54, 4:504-5.

Dromogomphus spinosus. Mus. bul. 47, p.461-62. *Same*, Mus. rep. 54, 4:461-62.

Ephemera varia. Mus. bul. 47, p.429. *Same*, Mus. rep. 54, 4:429.

Ephemerella excurcians. Mus. bul. 47, p.425-26. *Same*, Mus. rep. 54, 4:425-26.

Epiaeschna heros. Mus. bul. 47, p.468-69. *Same*, Mus. rep. 54, 4:468-69.

Epicordulia princeps. Mus. bul. 47, p.488-89. *Same*, Mus. rep. 54. 4:488-89.

Gomphus abbreviatus. Mus. bul. 47, p.448. *Same*, Mus. rep. 54, 4:448.

Gomphus brevis. Mus. bul. 47, p.449-50. *Same*, Mus. rep. 54, 4:449-50.

Gomphus descriptus. Mus. bul. 47, p.452-54. *Same*, Mus. rep. 54, 4:452-54.

Gomphus exilis. Mus. bul. 47, p.455-56. *Same*, Mus. rep. 54. 4:455-56.

Gomphus fraternus. Mus. bul. 47, p.451. *Same*, Mus. rep. 54, 4:451.

Gomphus scudderi. Mus. bul. 47, p.456-57. *Same*, Mus. rep. 54, 4:456-57.

Gomphus spicatus. Mus. bul. 47, p.459-60. *Same*, Mus. rep. 54, 4:459-60.

Gomphus villosipes. Mus. bul. 47, p.460-61. *Same*, Mus. rep. 54, 4:460-61.

Hagenius brevistylus. Mus. bul. 47, p.440-41. *Same*, Mus. rep. 54, 4:440-41.

Halesus *sp.*? Mus. bul. 47, p.567-70. *Same*, Mus. rep. 54, 4:567-70.

Helocordulia uhleri. Mus. bul. 47, p.497-98. *Same*, Mus. rep. 54, 4:497-98.

Heptagenia pulchella. Mus. bul. 47, p.420-21. *Same*, Mus. rep. 54, 4:420-21.

Hexagenia variabilis. Mus. bul. 47, p.427-28. *Same*, Mus. rep. 54, 4:427-28.

Hydropsyche *sp.*? Mus. bul. 47, p.566-67. *Same*, Mus. rep. 54, 4:566-67.

Ladona julia. Mus. bul. 47, p.530. *Same*, Mus. rep. 54, 4:530.

Lanthus parvulus. Mus. bul. 47, p.441-42. *Same*, Mus. rep. 54, 4:441-42.

Neuropteroid insects (*continued*)
Leucorhinia glacialis. Mus. bul. 47, p.518-19. *Same*, Mus. rep. 54, 4:518-19.
Leucorhinia intacta. Mus. bul. 47, p.517. *Same*, Mus. rep. 54, 4:517.
Leuctra tenella. Mus. bul. 47, p.416-18. *Same*, Mus. rep. 54, 4:416-18.
Libellula auripennis. Mus. bul. 47. p. 532-33. *Same*, Mus. rep. 54, 4:532-33.
Libellula basalis. Mus. bul. 47, p.532. *Same*, Mus. rep. 54, 4:532.
Libellula cyanea. Mus. bul. 47, p.534. *Same*, Mus. rep. 54, 4:534.
Libellula pulchella. Mus. bul. 47, p.536. *Same*, Mus. rep. 54, 4:536.
Libellula quadrimaculata. Mus. bul. 47, p.534-35. *Same*, Mus. rep. 54, 4:534-35.
Mesothemis simplicicollis. Mus. bul. 47, p.527-28. *Same*, Mus. rep. 54, 4:527-28.
Molanna cinerea. Mus. bul. 47, p. 564-65. *Same*, Mus. rep. 54, 4:564-65.
Nannothemis bella. Mus. bul. 47, p.509-11. *Same*, Mus. rep. 54, 4:509-11
Nasiaeschna pentacantha. Mus. bul. 47, p.467-68. *Same*, Mus. rep. 54, 4:467-68.
Neurocordulia obsoleta. Mus. bul. 47, p.486-87. *Same*, Mus. rep. **54**, 4:486-87.
Odonata-Zygoptera and Anisoptera. Mus. bul. 68. *In press.*
Ophiogomphus aspersus. Mus. bul. 47, p.437-38. *Same*, Mus. rep. 54, 4:437-38.
Ophiogomphus carolus. Mus. bul. 47, p.439. *Same*, Mus. rep. 54, 4:439.
Pachydiplax longipennis. Mus. bul. 47, p.526-27. *Same*, Mus. rep. 54, 4:526-27.
Panorpa. Ent. rep. 10, p.463-80. *Same*, Mus. rep. 48. 1:463-80.
Pantala flavescens. Mus. bul. 47, p.539-40. *Same*, Mus. rep. 54, 4:539-40.
Perithemis domitia. Mus. bul. 47, p.512-13. *Same*, Mus. rep. 54, 4:512-13.
Plathemis lydia. Mus. bul. 47, p.536-37. *Same*, Mus. rep. 54, 4:536-37.
Polycentropus lucidus. Mus. bul. 47, p.565-66. *Same*, Mus. rep. 54, 4:565-66.
Sialidae. Mus. bul. 68. *In press.*
Sialis infumata. Mus. bul. 47, p.542-44. *Same*, Mus. rep. 54, 4:542-44.
Siphlurus alternatus. Mus. bul. 47, p.423-25. *Same*, Mus. rep. 54, 4:423-25.
Sisyra umbrata. Mus. bul. 47, p.555-57. *Same*, Mus. rep. 54, 4:555-57.
Somatochlora elongata. Mus. bul. 47, p.499-500. *Same*, Mus. rep. 54, 4:499-500.
Sympetrum semicinctum. Mus. bul. 47, p.523-24. *Same*, Mus. rep. 54, 4:523-24.
Sympetrum vicinum. Mus. bul. 47, p.522-23. *Same*, Mus. rep. 54, 4:522-23.
Tachopteryx thoreyi. Mus. bul. 47, p.472-73. *Same*, Mus. rep. 54, 4:472-73.
Thermobia furnorum. Ent. rep. 14, p.216-18. (Mus. bul. 23). *Same*, Mus. rep. 52, 1:216-18.
—— Ag. Soc. Trans. 59, p.301.
Thrips tabaci. Ent. rep. 11, p.241-47. *Same*, Mus. rep. 49, 1:241-47.
Tramea carolina. Mus. bul. 47, p.538. *Same*, Mus. rep. 54, 4:538.
Tramea lacerata. Mus. bul. 47, p.539. *Same*, Mus. rep. 54, 4:539.

New Baltimore. Marshall. Report on a Deposit of Marl and Peat in New Baltimore. Mus. rep. 45 (for 1891) 1892. p.46-52.

New Jersey. Webster. Annelida Chaetopoda of New Jersey. Mus. rep. 32 (for 1878) 1879. p.101-28; 39 (for 1885) 1886. p.128-59. pl.4-10.

[a]**New Red Sandstone.** Conrad. New Red Sandstone or Saliferous System. Pal. rep. (for 1840) 1841. p.43-44.

Emmons. New Red Sandstone. Ag. N. Y. 1846. 1 200-1.

Gale. Red Sandstone of New York County. Geol. rep. 1st dist. (for 1838) 1839. p.191.

Kümmel. The Newark or New Red Sandstone Rocks of Rockland County, N. Y. Geol. rep. 18 (for 1898) 1899. p.9-50. pl. (phot.) map. *Same*, Mus. rep. 52 (for 1898) 1900. 2:9-50.pl. (phot.) map.
Map showing Triassic rocks of Rockland county, 45x44cm.

Mather. Red Sandstone or Freestone. Geol. N. Y. pt1. 1843. p.287.

Mather. Red Sandstone of Rockland County. Geol. rep. 1st dist. (for 1838) 1839. p.123-26.

Mather. Red Sandstone Division. Geol. N. Y. pt1. 1843. p.285-94.

See also Triassic.

New Scotland limestone (Catskill shaly; Delthyris shaly). [b]Clarke & Schuchert. New Scotland Beds. Mus. mem. 3. 1900. p.11. *Same*, Mus. rep. 53 (for 1899) 1901. 2:11.

New York city and county. Beck. Mineralogy. Min. rep. (for 1839) 184 p.78-79.

Gale. Geology. Geol. rep. 1st dist. (for 1838) 1839. p.177-99.

Gale. Borings for Water. Geol. N. Y. pt1. 1843. p.136-40.

Gale. Boulders. Geol. N. Y. pt1. 1843. p.178-84.

Gale. Grooves, Furrows and Scratches. Geol. N. Y. pt1. 1843. p.209-10.

Gale. Island of New York, Geology and Mineralogy. Geol. N. Y. pt1. 1843. p.518-24.

Gale. Diary of a Geological Survey of the Island of New York. Geol. N. Y. pt1. 1843. p.581-604.

Howell. Relief Map of New York and Vicinity. 22.5x14.5cm. Mus. rep. 51 (for 1897) 1899. v.1, facing p.r12.

Howell. Relief Map of Manhattan Island. 32x12cm. 1898. Mus. rep. 52 (for 1898) 1900. v.1.

Mather. Economic Geology. Geol. rep. 1st dist. (for 1838) 1839. p.72-114.

Mather. Limestone. Geol. N. Y. pt1. 1843. p.451-52.

Mather. Primary Rocks. Geol. N. Y. pt1. 1843. p.525-34.

Mather. Miscellaneous Remarks. Geol. N. Y. pt1. 1843. p.542-49.

Mather. Dip and Strike of Rocks. Geol. N. Y. pt1. 1843. p.606-9.

Mather. Map. Geol. N. Y. pt1. 1843. pl.1.

Merrill. Geological Map, showing the Distribution of Rocks used as Building Stones. 22x35cm. Mus. bul. 15. 1895. description, p.370. *Same*, Mus. rep. 48 (for 1894) 1895. v.1. description, p.370 (2d paging).

Ries. Limestone Formations. Mus. bul. 44. 1901. p.800. *Same*, Mus. rep. 54 (for 1900) 1902. 3:800.

Smock. Building Stone Quarries. Mus. bul. 3. 1888. p.25, 36-37; 10. 1890. p.228-29, 234.

—— —— *revised* by Merrill. Mus. bul. 15. 1895. p.375, 429. *Same*, Mus. rep. 48 (for 1894) 1895. 1:375, 429 (2d paging).

Smock. Stone Construction in. Mus. bul. 10. 1890. p.283-316.

New York series. Clarke & Schuchert. Nomenclature of New York Series of Geological Formations. Mus. mem. 3. 1900. p.8-12. *Same*, Mus. rep. 53 (for 1899) 1901. 2:8-12.
Originally published in Science, Dec. 8, 1899.
Table also published in Mus. bul. 45. 1901. p.20-21.

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[a] Term first used by Hitchcock. Geol. of Mass. Final rep't. 1841. 2:434-531.

[b] First use of term in original publication of this article. Science. 1899. new ser. 10:877.

New York series (*continued*)

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Emmons. New York Transition System. Geol. N. Y. pt2. 1842. p.99-126. Ag. N. Y. 1846. 1:113-206.

Emmons. New York System in Vermont. Geol. N. Y. pt2. 1842. p.279-82.

Emmons. Extension of the New York System in Canada. Geol. N. Y. pt2. 1842. p.407-8.

Emmons. Tabular View of the Sedimentary Rocks of New York. Geol. N. Y. pt2. 1842. p.429.

Hall. On the Basis of Nomenclature. Geol. rep. 4th dist. (for 1838) 18 9. p.288-90.

Hall. Rocks and Fossils. Geol. rep. 4th dist. (for 1839) 1840. p.453-55.

Hall. Section from Mouth of the Genesee River to Instantur, Penn. Geol. rep. 1837-41. v.2. Assembly doc. 1838, no.200.

Hall. Tabular View of the Rocks and Groups described in the Geological Reports of New York; their Extent and Agreement with those of Europe. Geol. N. Y. pt4. 1843. p.17-25.

Hall. On the Identity of the Rock Formations of the Western States with those of New York. Geol. N. Y. pt4. 1843. p.500-15.

Hall. On the Identity of the New York Formations with those of Europe; Table of Equivalents in American Strata. Geol. N. Y. pt4. 1843. p.516-20.

Hall. Discussion of Formations, Comparisons with Rocks of other Parts of United States and of Canada. Pal. N. Y. 1859. v.3. *introd.* p.1-65.

Mather. New York System. Geol. N. Y. pt1. 1843. p.298-421.

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Merrill. Table showing Progress made in Classification. Mus. bul. 56. 1902. facing p.34.

Vanuxem. Enumeration of Rocks; Tabular View. Geol. N. Y. pt3. 1842. p.11-16.

Vanuxem. New York System. Geol. N. Y. pt3. 1842. p.24-202.

Vertical Section showing Relative Thickness of the Different Rocks. Geol. rep. 1837-41. v.2. Assembly doc. 1838, no.200.

See also Transition system.

New York State Museum. Act to regulate the State Museum of Natural History, and the Publication of the Palaeontology of the State; Contracts relating to Publication of Palaeontology. Mus. rep. 37 (for 1883) 1884. p.11-18.

Addresses delivered at the Inauguration of the State Geological Hall, Aug. 27, 1856. Mus. rep. 10 (for 1856) 1857. p.11-28.

Hall. State Museum of Natural History. Public Service of the State of New York. 1882. 3:482-88.

Hall. Educational Uses of Museums of Natural History. Regents rep. 100 (for 1886) 1887. p.208-13.

Hall. Plan of the Museum. Mus. rep. 42 (for 1888) 1889. p.18-24.

Merrill. The Natural History Survey of New York and the Origin of the State Museum. Mus. bul. 19. 1898. p.240-45. *Same*, Mus. rep. 51 (for 1897) 1899. 1:240-45.

New York State Museum. University handbook 5. 14p.
Revised edition in press.
Outlines history and work of museum; with list of staff and scientific publications, 1893.

Special Report of the Regents of the University in Relation to the State Cabinet of Natural History. Mus. rep. 19 (for 1865) 1866. p.8-32.

Statistics relating to Museum as compiled from Tenth Census. Mus. rep. 35 (for 1881) 1884. p.118-19.

New York State Museum (*continued*)

Statement of the Space now occupied, and an Estimate of the Space required for the Collections and Offices of the State Museum. Mus. rep. 39 (for 1885) 1886. p.24-29.

See also Natural History Survey of the State of New York.

Newark formation, *see* New red sandstone.

Newburg. Smock. Stone Construction in. Mus. bul. 10, 1890. p.319-20.

Newburg limestone. [a]Mather. Newburg Limestone. Geol. rep. 1st dist. (for 1839) 1840. p.257.

See also Calciferous sandrock.

Niagara county. Beck. Mineralogy. Min. rep. (for 1839) 1840. p.79-80.

Bishop. Natural Gas. Geol. rep. 17 (for 1897) 1899. p.29-30. *Same,* Mus. rep. 51 (for 1897) 1899. 2:29-30.

Felt. Entomological Reports from. Ent. rep. 16 (for 1900) 1901. p.1014. (Mus. bul. 36). *Same,* Mus. rep. 54 (for 1900) 1902. 2:1014.

—— —— Ent. rep. 17 (for 1901) 1902. p.787-88. (Mus. bul. 53).

Hall. Niagara County. Geol. rep. 4th dist. (for 1837) 1838. p.359-73. Geol. N. Y. pt4. 1843. p.440-48.

Ries. Brick Yards. Mus. bul. 12. 1895. p.204-5, 248. *Same,* Mus. rep. 48 (for 1894) 1895. 1:204-5, 248 (2d paging).

—— —— Mus. bul. 35. 1900. p.722. *Same,* Mus. rep. 54 (for 1900) 1902. 2:722.

Ries. Limestones. Geol. rep. 17 (for 1897) 1899. p.444-45. *Same,* Mus. rep. 51 (for 1897) 1899. 2:444-45.

—— —— *revised.* Mus. bul. 44. 1901. p.800-1. *Same,* Mus. rep. 54 (for 1900) 1902. 3:800-1.

Smock. Building Stone Quarries. Mus. bul. 3. 1888. p.70-71, 133-34; 10. 1890. p.254-55, 265.

—— —— *revised* by Merrill. Mus. bul. 15. 1895. p.397, 400, 447-48. *Same,* Mus. rep. 48 (for 1894) 1895. 1:397, 400, 447-48 (2d paging).

Niagara falls. Grabau. Guide to the Geology and Paleontology of Niagara Falls and Vicinity; with a chapter on Post-pliocene Fossils of Niagara by Elizabeth J. Letson. Mus. bul. 45. 1901. 284p. 18pl. (phot.) map. *Same,* Mus. rep. 54 (for 1900) 1902. 4:3-284. 18pl. (phot.) map.

Geologic map of Niagara river, 84.5x38cm. Contains a partial bibliography of the geology of Niagara and the Great lakes.

Hall. Niagara Falls and River. Geol. rep. 4th dist. (for 1837) 1838. p.371-73. Geol. N. Y. pt4. 1843. p.383-404.

Facsimile of a view of Niagara falls by Father Louis Hennepin, 1698. Geol. N. Y. pt4.

Trigonometric survey and map. Geol. N. Y. pt4.

Niagara group. Emmons. Niagara Group. Ag. N. Y. 1846. 1:150-52.

Hall. Niagara Group. Geol. N. Y. pt4. 1843. p.80-117. Pal. N. Y. 1852. 2:2-4; 1859. 3:25-30, 41-42.

Hall. Niagara Group in Monroe County. Geol. N. Y. pt4 1843. p.422.

Hall. Niagara Group in Niagara County. Geol. N. Y. pt4. 1843. p.440.

Hall. Niagara Group in Orleans County. Geol. N. Y. pt4. 1843. p.433.

Hall. Niagara Group in Wayne County. Geol. N. Y. pt4. 1843. p.414.

Hall. Mineral Contents. Geol. N. Y. pt4. 1843. p.98-99.

Hall. Organic Remains. Geol. N. Y. pt4. 1843. p.100-17. Pal. N. Y. 1852. 2:106-295, 302-20, 354-55.

Hall. New Species of Fossils from a Locality of the Niagara Group in Indiana, with a List of Identified Species from the Same Place. Alb. Inst. Trans. 1858-64. 4:195-228.

Read before the Albany Institute, Ap. 29, 1862

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[a] First use of term.

Niagara group (*continued*)

Hall. Descriptions of New or Little Known Species of Fossils from Rocks of the Age of the Niagara Group. Mus. rep. 20 (for 1866) 1867. p.305-401. pl.10-23.

Hall. The Niagara and Lower Helderberg Groups; their Relations and Geographical Distribution in the United States and Canada. Mus. rep. 27 (for 1873) 1875. p.117-31. map 70x50cm.

Hall. Description of New Species of Fossils from the Niagara Formation at Waldron, Indiana. Alb. Inst. Trans. 1883. 10:57-76.
Read before the Albany Institute, Mar. 18, 1879.

Hall. Fauna of the Niagara Group in Central Indiana. Mus. rep. 28 (for 1874) 1879. p.99-203. 32pl.

Hall. Descriptions of Fossil Corals from the Niagara and Upper Helderberg Groups. Mus. rep. 35 (for 1881) 1884. p.407-64. pl.23-30.

Lincklaen. Niagara Group; Fossils. Mus. rep. 14 (for 1860) 1861. p.53-56.

Luther. Niagara Group. Geol. rep. 16 (for 1896) 1899. p.204-5. *Same*, Mus. rep. 50 (for 1896) 1899. 2:204-5.

Merrill. Niagara Group. Mus. bul. 19. 1898. p.153-54. *Same*, Mus. rep. 51 (for 1897) 1899. 1:153-54.

[a]Vanuxem. Niagara Group. Geol. N. Y. pt3. 1842. p.90-94.

Vanuxem. Niagara Group in Cayuga County. Geol. N. Y. pt3. 1842. p.286.

Vanuxem. Niagara Group in Madison County. Geol. N. Y. pt3. 1842. p.272.

Vanuxem. Niagara Group in Oneida County. Geol. N. Y. pt3. 1842. p.262-63.

Vanuxem. Niagara Group in Onondaga County. Geol. N. Y. pt3. 1842. p.278.

Vanuxem. Fossils. Geol. N. Y. pt3. 1842. p.94.

[b]**Niagara limestone (Lockport).** Bishop. Niagara Limestone of Erie County. Geol. rep. 15 (for 1895) 1897. p.390. *Same*, Mus. rep. 49 (for 1895) 1898. 2:390.

Darton. Niagara Limestone. Geol. rep. 13 (for 1893) 1894. p.218. *Same*, Mus. rep. 47 (for 1893) 1894. p.412.

Darton. Coralline Limestone (Niagara limestone) of Ulster County. Geol. rep. 13 (for 1893) 1894. p.307. *Same*, Mus. rep. 47 (for 1893) 1894. p.501.

Emmons. Niagara Limestone. Ag. N. Y. 1846. 1:151.

Geddes. Niagara Limestone of Onondaga County. Ag. Soc. Trans. 19 (for 1859) 1860. p.245.

Hall. Niagara Limestone. Geol. N. Y. pt4. 1843. p.84-97.

Hall. Organic Remains. Pal. N. Y. 1852. 2:321-38.

Luther. Niagara Limestone of Onondaga County. Geol. rep. 15 (for 1895) 1897. p.247-50. *Same*, Mus. rep. 49 (for 1895) 1898. 2:247-50.

Ries. Niagara Limestone. Geol. rep. 17 (for 1897) 1899. p.363-64. *Same*, Mus. rep. 51 (for 1897) 1899. 2:363-64.

—— —— *revised*. Mus. bul. 44. 1901. p.758-59. *Same*, Mus. rep. 54 (for 1900) 1902. 3:758-59.

Ries. Niagara Limestone of Cayuga County. Mus. bul. 44. 1901. p.772. *Same*, Mus. rep. 54 (for 1900) 1902. 3:772.

Ries. Niagara Limestone of Genesee County. Mus. bul. 44. 1901. p.783. *Same*, Mus. rep. 54 (for 1900) 1902. 3:783.

Ries. Niagara Limestones of Madison County. Mus. bul. 44. 1901. p.793. *Same*, Mus. rep. 54 (for 1900) 1902. 3:793.

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[a] First use of term.
[b] Term first used by Hall. Amer. Jour. Sci. 1842. ser. 1. 42-58.

Niagara limestone (*continued*)

Ries. Niagara Limestone of Monroe County. Geol. rep. 17 (for 1897) 1899. p.441-42. *Same*, Mus. rep. 51 (for 1897) 1899. 2:441-42.

—— —— *revised*. Mus. bul. 44. 1901. p.794-95. *Same*, Mus. rep. 54 (for 1900) 1902. 3:794-95.

Ries. Niagara Limestone of Niagara County. Geol. rep. 17 (for 1897) 1899. p.444-45. *Same*, Mus. rep. 51 (for 1897) 1899. 2:444-45.

—— —— *revised*. Mus. rep. 44. 1901. p.800-1. *Same*, Mus. rep. 54 (for 1900) 1902. 3:800-1.

Ries. Niagara Limestone of Oneida County. Mus. bul. 44. 1901. p.802. *Same*, Mus. rep. 54 (for 1900) 1902. 3:802.

Ries. Niagara Limestone of Onondaga County. Geol. rep. 17 (for 1897) 1899. p.447. *Same*, Mus. rep. 51 (for 1897) 1899. 2:447.

—— —— *revised*. Mus. bul. 44. 1901. p.803. *Same*, Mus. rep. 54 (for 1900) 1902. 3:803.

Ries. Niagara Limestones of Orleans County. Mus. bul. 44. 1901. p.810-11. *Same*, Mus. rep. 54 (for 1900) 1902. 3:810-11.

Ries. Coralline or Niagara Limestone of Ulster County. Geol. rep. 17 (for 1897) 1899. p.459. *Same*, Mus. rep. 51 (for 1897) 1899. 2:459.

—— —— *revised*. Mus. bul. 44. 1901. p.824. *Same*, Mus. rep. 54 (for 1900) 1902. 3:824.

Ries. Niagara Limestone of Wayne County. Mus. bul. 44. 1901. p.828. *Same*, Mus. rep. 54 (for 1900) 1902. 3:828.

Smock. Niagara Limestone. Mus. bul. 3. 1888. p.21; 10. 1890. p.211-12.

—— —— *revised* by Merrill. Mus. bul. 15. 1895. p.427. *Same*, Mus. rep. 48 (for 1894) 1895. 1:427 (2d paging).

—— —— *revised* by Merrill. Mus. bul. 19. 1898. p.201. *Same*, Mus. rep. 51 (for 1897) 1899. 1:201.

Smock. Quarries. Mus. bul. 3. 1888. p.94-134; 10. 1890. p.254-55.

—— —— *revised* by Merrill. Mus. bul. 15. 1895. p.447-48. *Same*, Mus. rep. 48 (for 1894) 1895. 1:447-48 (2d paging).

See also Guelph formation; Lockport limestone.

Niagara river. Bishop. Preglacial Erosion. Geol. rep. 15 (for 1895) 1897. p.325-26. *Same*, Mus. rep. 49 (for 1895) 1898. 2:325-26.

See also Niagara falls.

Niagara river, red sandstone, *see* Red sandstone of Niagara.

[a]**Niagara shale (Rochester).** Emmons. Niagara Shale. Ag. N. Y. 1846. 1:151.

Hall. Niagara Shale. Geol. N. Y. pt4. 1843. p.81-83.

Ries. Niagara Shale. Geol. rep. 15 (for 1895) 1897. p.690. *Same*, Mus. rep. 49 (for 1895) 1898. 2:690.

—— —— Mus. bul. 35. 1900. p.828-29. *Same*, Mus. rep. 54 (for 1900) 1902. 2:828-29.

See also Rochester shale.

Niagaran. Clarke & Schuchert. Niagaran. Mus. mem. 3. 1900. p.10. *Same*, Mus. rep. 53 (for 1899) 1901. 2:10.

Niccolite. Whitlock. Niccolite. Mus. bul. 58. 1902. p.56.

Nickel. Whitlock. Nickel. Mus. bul. 58. 1902. p.56.

Niter. Beck. Nitre. Min. N. Y. 1842. p.453.

Mather. Nitrates of Lime and Potassa. Geol. N. Y. pt1. 1843. p.85.

Nitrate of lime. Beck. Nitrate of Lime. Mus. rep. 3 *rev. ed.* (for 1849) 1850. p.152.

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[a] Term first used by Conrad. Phil. Acad. Nat. Sci. Journal. 1842. ser. 1. 8:232.

Nitrogen. Beck. Nitrogen Gas. Min. rep. (for 1838) 1839. p.14. Min. N. Y. 1842. p.174-75.

Nitrogen springs. Beck. Nitrogen Springs. Min. rep. (for 1837) 1838. p.47-48. Min. N. Y. 1842. p.133-34. Mus. rep. 3 *rev. ed.* (for 1849) 1850. p.116.

Emmons. Springs of Chateaugay. Geol. rep. 2d dist. (for 1836) 1837. p.122-23 (ed. 2, p.124-25).

Hall. Nitrogen Springs. Geol. N. Y. pt4. 1843. p.308-9, 451.

Mather. Gaseous and Thermal Springs. Geol. N. Y. pt1. 1843. p.104-8.

Nomenclature, *see* New York series.

Norite. Smock. Norite. Mus. bul. 10. 1890. p.205.

See also Crystalline rocks; Gabbros.

Normanskill shales. Ruedemann. Normanskill Beds (Lower Dicellograptus zone). Mus. bul. 42. 1901. p.538-44, 550-52. *Same*, Mus. rep. 54 (for 1900) 1902. 3:538-44, 550-52.

Ruedemann. Trenton Conglomerate of Rysedorph Hill, Rensselaer Co. N. Y. and its Fauna. Mus. bul. 49. 1901. p.3-114. 7pl.

Nunda group, *see* Portage group.

Oak caterpillar. Felt. Yellow Striped Oak Caterpillar. Forest, Fish and Game Com. rep. 7 (for 1901). *In press.*

Oak worm. Lintner. Orange Striped Oak Worm. Ent. rep. 5 (for 1888) 1889. p.192-200. *Same*, Mus. rep. 42 (for 1888) 1889. p.192-200.

Oaktrees, *see* Forest trees.

Ochers. Beck. Stone Paints, Ochres. Min. N. Y. 1842. p.60-61.

Octahedrite. Beck. Anatase. Min. N. Y. 1842. p.428.

Whitlock. Octahedrite. Mus. bul. 58. 1902. p.76.

Odonata, *see* Neuropteroid insects.

Ohio. Hall. New Species of Fossils from the Hudson River Group of Ohio and other Western States. Mus. rep. 13 (for 1859) 1860. p.119-21; 14 (for 1860) 1861. p.89-92.

Hall & Whitfield. Notice of Three New Species of Fossil Shells from the Devonian of Ohio. Mus. rep. 23 (for 1869) 1873. p.240-41.

See also Cincinnati; Waverly sandstone.

Oil, *see* Petroleum.

Old red sandstone (Catskill formation). Conrad. Old Red Sandstone Group. Pal. rep. (for 1838) 1839. p.62.

Conrad. Old Red Sandstone or Devonian System. Pal. rep. (for 1840) 1841. p.41-42.

Hall. Old Red Sandstone. Geol. rep. 4th dist. (for 1839) 1840. p.393-94. Geol. N. Y. pt4. 1843. p.278-83.

Hall. Old Red Sandstone of Chautauqua County. Geol. rep. 4th dist. (for 1840) 1841. p.172.

Hall. Old Red Sandstone of Steuben County. Geol. rep. 4th dist. (for 1839) 1840. p.397. Geol. N. Y. pt4. 1843. p.482.

Hall. Organic Remains. Geol. N. Y. pt4. 1843. p.280-83.

See also Catskill division; Catskill formation; Devonian.

Olean quadrangle. Clarke. Paleontologic Results of the Areal Survey. Mus. bul. 52. 1902. p.524-28.

Glenn & Butts. Stratigraphy and Paleontology of the Olean quadrangle. Pal. rep. (for 1902). *In press.*

Oligoclase. Hunt. Oligoclase. Mus. rep. 21 (for 1867) 1871. p.81-82.

Merrill. Oligoclase. Mus. bul. 19. 1898. p.121. *Same*, Mus. rep. 51 (for 1897) 1899. 1:121.

Whitlock. Oligoclase. Mus. bul. 58. 1902. p.90.

Olive shale, *see* Erie division; Hamilton group.

Olivenite. Whitlock. Olivenite. Mus. bul. 58. 1902. p.120.

Olivin. Merrill. Olivine. Mus. bul. 19. 1898. p.122. *Same*, Mus. rep. 51 (for 1897) 1899. 1:122.

See also Chrysolite.

Omphalia. Peck. New York Species of Omphalia. Bot. rep. 45 (for 1891) 1893. p.32-42. *Same*, Mus. rep. 45 (for 1891) 1892. p.92-102.

Oneida conglomerate (Shawangunk grit). Clarke & Schuchert. Oneida Conglomerate. *See* New York series.

Emmons. Oneida Conglomerate. Ag. N. Y. 1846. 1:125-26.

Hall. Oneida Conglomerate. Geol. N. Y. pt4. 1843. p.31. Pal. N. Y. 1852. 2:1.

Lincklaen. Oneida Conglomerate. Mus. rep. 14. (for 1860) 1861. p.51.

Luther. Oneida Conglomerate. Geol. rep. 16 (for 1896) 1899. p.201. *Same*, Mus. rep. 50 (for 1896) 1899. 2:201.

Merrill. Oneida Conglomerate. Mus. bul. 19. 1898. p.151-52. *Same*, Mus. rep. 51 (for 1897) 1899. 1:151-52.

Smock. Oneida Conglomerate. Mus. bul. 10. 1890. p.218-19.

—— —— *revised* by Merrill. Mus. bul. 15. 1895. p.385. *Same*, Mus. rep. 48 (for 1894) 1895. 1:385 (2d paging).

—— —— *revised* by Merrill. Mus. bul. 19. 1898. p.189. *Same*, Mus. rep. 51 (for 1897) 1899. 1:189.

[a]Vanuxem. Oneida Conglomerate. Geol. rep. 3d dist. (for 1839) 1840. p.374. Geol. N. Y. pt3. 1842. p.75-78.

Vanuxem. Oneida Conglomerate in Cayuga County. Geol. N. Y. pt3. 1842. p.286.

Vanuxem. Oneida Conglomerate in Herkimer County. Geol. N. Y. pt3. 1842. p.257.

Vanuxem. Oneida Conglomerate in Oneida County. Geol. N. Y. pt3. 1842. p.262.

White. Oneida Conglomerate Stage. Mus. rep. 51 (for 1897) 1899. 1:r36.

See also Shawangunk grit.

Oneida county. Beck. Mineralogy. Min. rep. (for 1839) 1840. p.80-81.

Felt. Entomological Reports from. Ent. rep. 15 (for 1899) 1900. p.564. (Mus. bul. 31). *Same*, Mus. rep. 53 (for 1899) 1901. 1:564.

—— —— Ent. rep. 16 (for 1900) 1901. p.1014. (Mus. bul. 36. *Same*, Mus. rep. 54 (for 1900) 1902. 2:1014.

—— —— Ent. rep. 17 (for 1901) 1902. p.788. (Mus. bul. 53).

Orton. Petroleum and Natural Gas. Mus. bul. 30. 1899. p.476-83. *Same*, Mus. rep. 53 (for 1899) 1901. 1:476-83.

Paine. Catalogue of Plants found in Oneida County and Vicinity. Mus. rep. 18 (for 1864) 1865. p.53-192.

Ries. Brick Yards. Mus. bul. 12. 1895. p.197, 198-99, 248. *Same*, Mus. rep. 48 (for 1894) 1895. 1:197, 198-99, 248 (2d paging).

—— —— Mus. bul. 35. 1900. p.713, 714-15. *Same*, Mus. rep. 54 (for 1900) 1902. 2:713, 714-15.

Ries. Limestones. Geol. rep. 17 (for 1897) 1899. p.445-46. *Same*, Mus. rep. 51 (for 1897) 1899. 2:445-46.

—— —— *revised*. Mus. bul. 44. 1901. p.801-3. *Same*, Mus. rep. 54 (for 1900) 1902. 3:801-3.

Smock. Building Stone Quarries. Mus. bul. 3. 1888. p.57, 59, 71, 113-15, 122; 10. 1890. p.246-47, 250, 260, 261, 273.

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[a] First use of term.

Oneida county (*continued*)

—— —— *revised* by Merrill. Mus. bul. 15. 1895. p.395-96, 397, 439-40, 443. *Same*, Mus. rep. 48 (for 1894) 1895. 1:395-96, 397, 439-40, 443 (2d paging).

Vanuxem. Oneida County. Geol. rep. 3d dist. (for 1837) 1838. p.273-80. Geol. N. Y. pt3. 1842. p.259-64.

White. Report on the Relations of the Ordovician and Eo-Silurian Rocks in Portions of Herkimer, Oneida and Lewis Counties. Mus. rep. 51 (for 1897) 1899. 1:r21-54. pl. (phot.) 2 maps.

Map of the vicinity of Frankfort hill, 31.5x16.5cm.
Map of the Precambrian border in Oneida and Lewis counties, 49.5x16cm.

Oneida lake. Geddes. Oneida Lake. Ag. Soc. Trans. 19 (for 1859) 1860 p.259.

Vanuxem. Oneida Lake. Geol. N. Y. pt3. 1842. p.241.

Oneonta sandstone (Portage). Beecher, C. E., Hall, C. E. & Hall, J. W. Note on the Oneonta Sandstone in the Vicinity of Oxford, Chenango Co., N. Y. Geol. rep. 5 (for 1885) 1886. p.11.

Clarke. Oneonta Sandstones and Shales in Chenango County. Geol. rep. 13 (for 1893) 1894. p.531-57. *Same*, Mus. rep. 47 (for 1893) 1894. p.725-51.

Clarke. Stratigraphic and Faunal Relations of the Oneonta Sandstones and Shales, the Ithaca and the Portage Groups in Central New York. Geol. rep. 15 (for 1895) 1897. p.11-12, 27-81. pl. (phot.) 2 maps 25x28.5, 26x26.5cm. *Same*, Mus. rep. 49 (for 1895) 1898. 2:11-12, 27-81. pl.(phot.) 2 maps 25x28.5, 26x26.5cm.

Clarke. A Remarkable Occurrence of Orthoceras in the Oneonta Beds of the Chenango Valley, N. Y. Mus. bul. 39. 1900. p.167-71. *Same*, Mus. rep. 54 (for 1900) 1902. 3:167-71.

Clarke. Oneonta Fauna. Mus. bul. 52. 1902. p.671.

Clarke & Schuchert. Oneonta Beds. *See* New York series.

Conrad. Oneonta Group. Pal. rep. (for 1840) 1841. p.31.

Darton. Oneonta Formation in Albany County. Geol. rep. 13 (for 1893) 1894. p.238-40. *Same*, Mus. rep. 47 (for 1893) 1894. p.432-34.

Prosser. Classification and Distribution of the Hamilton and Chemung Series of Central and Eastern New York. Pt1, Geol. rep. 15 (for 1895) 1897. p.12-13, 83-222. pl. (phot.) map. Pt2. Geol. rep. 17 (for 1897) 1899. p.65-315. pl. (phot.) map. *Same*, Pt1, Mus. rep. 49 (for 1895) 1898. 2:12-13, 83-222. pl. (phot.) map. Pt2, Mus. rep. 51 (for 1897) 1899. 2:65-315. pl. (phot.) map.

Pt1, Geologic map of parts of Chenango, Madison, Otsego, Schoharie and Albany counties, 58x33.5cm.
Pt2, Map showing distribution of middle and upper Devonian rocks in central-eastern New York, 61x38.5cm.
Map of Delaware county by W. L. Fisher, 34x32cm.

Prosser. Oneonta Formation. Geol. rep. 17 (for 1897) 1899. p.74-315. *Same*, Mus. rep. 51 (for 1897) 1899. 2:74-315.

Smock. Oneonta Sandstone. Mus. bul. 3. 1888. p.17; 10. 1890. p.222-23.

—— —— *revised* by Merrill. Mus. bul. 15. 1895. p.388. *Same*, Mus. rep. 48 (for 1894) 1895. 1:388 (2d paging).

—— —— *revised* by Merrill. Mus. bul. 19. 1898. p.193. *Same*, Mus. rep. 51 (for 1897) 1899. 1:193.

[a]Vanuxem. Montrose Sandstone, or Sandstone of Oneonta. Geol. rep. 3d dist. (for 1839) 1840. p.381.

See also Portage sandstones.

Onion thrips. Lintner. Onion Thrips. Ent. rep. 11 (for 1895) 1896. p.241-47. *Same*, Mus. rep. 49 (for 1895) 1897. 1:241-47.

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[a] First use of term.

Onondaga county. Beck. Brine Springs. Min. rep. (for 1837) 1838. p.24-36; (for 1840) 1841. p.18-23. Min. N. Y. 1842. p.103-8, 110.

Beck. Mineralogy. Min. rep. (for 1839) 1840. p.81-82.

Bishop. Oil and Gas. Geol. rep. 19 (for 1899) 1901. p.r125-26. *Same*, Mus. rep. 53 (for 1899) 1901. 1:r125-26.

Clarke. Agoniatite Limestone. Mus. bul. 49. 1901. p.117-19.

Felt. Entomological Reports from. Ent. rep. 15 (for 1899) 1900. p.564-65. (Mus. bul. 31). *Same*, Mus. rep. 53 (for 1899) 1901. 1:564-65.

—— —— Ent. rep. 16 (for 1900) 1901. p.1014-15. (Mus. bul. 36). *Same*, Mus. rep. 54 (for 1900) 1902. 2:1014-15.

—— —— Ent. rep. 17 (for 1901) 1902. p.788-89. (Mus. bul. 53.)

Geddes. Survey of. Ag. Soc. Trans. 19 (for 1859) 1860. p.219-352. illus. map.

Geographic and topographic map of Onondaga co. by George Geddes, 79x57.5cm.

Luther. Economic Geology. Geol. rep. 15 (for 1895) 1897. p.4-16, 237-303. pl. (phot.) 2 maps. *Same*, Mus. rep. 49 (for 1895) 1898. 2:14-16, 237-303. pl. (phot. 2 maps.

Map of Onondaga county (uncolored) 34x34cm.
Geologic map of Onondaga county (colored) 34x38cm.

Orton. Petroleum and Natural Gas. Mus. bul. 30. 1899. p.459-76. *Same*, Mus. rep. 53 (for 1899) 1901. 1:459-76.

Ries. Brick Yards. Mus. bul. 12. 1895. p.199-202, 248. *Same*, Mus. rep. 48 (for 1894) 1895. 1:199-202, 248 (2d paging).

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Ries. Limestones. Geol. rep. 17 (for 1897) 1899. p.446-50. *Same*, Mus. rep. 51 (for 1897) 1899. 2:446-50.

—— —— *revised*. Mus. bul. 44. 1901. p.803-7. *Same*, Mus. rep. 54 (for 1900) 1902. 3:803-7.

Smock. Building Stone Quarries. Mus. bul. 3. 1888. p.122-25; 10. 1890. p.250-52.

—— —— *revised* by Merrill. Mus. bul. 15. 1895. p.443-44. *Same*, Mus. rep. 48 (for 1894) 1895. 1:443-44 (2d paging).

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Onondaga lake. Geddes. Onondaga Lake. Ag. Soc. Trans. 19 (for 1859) 1860. p.259-60.

Vanuxem. Onondaga Lake. Geol. N. Y. pt3. 1842. p.241-42.

Onondaga limestone (Upper Helderberg; Corniferous; Seneca). Bishop. Onondaga Limestone of Erie County. Geol. rep. 15 (for 1895) 1897. p.313, 331-32, 390. *Same*, Mus. rep. 49 (for 1895) 1898. 2:313, 331-32, 390.

Clarke. Onondaga Limestone in Ontario County. Geol. rep. 4 (for 1884) 1885. p.10.

Clarke. Onondaga Fauna. Mus. bul. 52. 1902. p.667-68.

Clarke & Schuchert. Onondaga Limestone. *See* New York series.

Conrad. Onondaga Limestone Series. Geol. rep. 3d dist. (for 1836) 1837. p.178-81 (ed. 2, p.180-83). Pal. rep. (for 1840) 1841. p.31.

Darton. Onondaga Limestone. Geol. rep. 13 (for 1893) 1894. p.207-8. *Same*, Mus. rep. 47 (for 1893) 1894. p.401-2.

Darton. Onondaga Limestone in Albany County. Geol. rep. 13 (for 1893) 1894. p.242-43. *Same*, Mus. rep. 47 (for 1893) 1894. p.436-37.

Darton. Onondaga Limestone of Ulster County. Geol. rep. 13 (for 1893) 1894. p.301-2. *Same*, Mus. rep. 47 (for 1893) 1894. p.495-96.

Emmons, Onondaga Limestone. Ag. N. Y. 1846. 1:174-79.

Geddes. Onondaga Limestone of Onondaga County. Ag. Soc. Trans. 19 (for 1859) 1860. p.251.

Onondaga limestone (*continued*)

Hall. Onondaga Limestone. Geol. N. Y. pt4. 1843. p.151-60.

Hall. Onondaga Limestone in Erie County. Geol. rep. 4th dist. (for 1840) 1841. p.156-58. Geol. N. Y. pt4. 1843. p.471.

Hall. Onondaga Limestone of Genesee County. Geol. rep. 4th dist. (for 1839) 1840. p.427-29. Geol. N. Y. pt4. 1843. p.466.

Hall. Onondaga Limestone of Livingston County. Geol. rep. 4th dist. (for 1839) 1840. p.418-20. Geol. N. Y. pt4. 1843. p.460.

[a]Hall. Gray Crinoidal or Onondaga Limestone of Ontario County. Geol. rep. 4th dist. (for 1838) 1839. p.309-10. Geol. N. Y. pt4. 1843. p.456.

Hall. Organic Remains. Geol. N. Y. pt4. 1843. p.157-60.

Lincklaen. Onondaga Limestone. Mus. rep. 14 (for 1860) 1861. p.60.

Lincoln. Onondaga Limestone of Seneca County. Geol. rep. 14 (for 1894) 1895. p.87-89. *Same*, Mus. rep. 48 (for 1894) 1895. 2:87-89.

Luther. Onondaga Limestone. Geol. rep. 16 (for 1896) 1899. p.214-16. *Same*, Mus. rep. 50 (for 1896) 1899. 2:214-16.

Luther. Onondaga Limestones in Livonia Salt Shaft. Geol. rep. 13 (for 1893) 1894. p.45-47. *Same*, Mus. rep. 47 (for 1893) 1894. p.239-41.

Luther. Onondaga Limestone of Onondaga County. Geol. rep. 15 (for 1895) 1897. p.275-79. *Same*, Mus. rep. 49 (for 1895) 1898. 2:275-79.

Mather. Onondaga Limestone. Geol. N. Y. pt1. 1843. p.339.

Mather. Fossils. Geol. N. Y. pt1. 1843. p.339.

Ries. Onondaga Limestone. Geol. rep. 17 (for 1897) 1899. p.366-67. *Same*, Mus. rep. 51 (for 1897) 1899. 2:366-67.

Ries. Upper Helderberg Limestone. Mus. bul. 44. 1901. p.765. *Same*, Mus. rep. 54 (for 1900) 1902. 3:765.

Ries. Onondaga Limestone of Albany County. Geol. rep. 17 (for 1897) 1899. p.429. *Same*, Mus. rep. 51 (for 1897) 1899. 2:429.

—— —— *revised*. Mus. bul. 44. 1901. p.769-72. *Same*, Mus. rep. 54 (for 1900) 1902. 3:769-72.

Ries. Upper Helderberg Limestone of Cayuga County. Mus. bul. 44. 1901. p.772-73. *Same*, Mus. rep. 54 (for 1900) 1902. 3:772-73.

Ries. Onondaga Limestones of Erie County. Geol. rep. 17 (for 1897) 1899. p.435-36. *Same*, Mus. rep. 51 (for 1897) 1899. 2:435-36.

—— —— *revised*. Mus. bul. 44. 1901. p.779, 780-81. *Same*, Mus. rep. 54 (for 1900) 1902. 3:779, 780-81.

Ries. Upper Helderberg Limestone of Greene County. Mus. bul. 44. 1901. p.786. *Same*, Mus. rep. 54 (for 1900) 1902. 3:786.

Ries. Upper Helderberg Limestone of Onondaga County. Geol. rep. 17 (for 1897) 1899. p.448-50. *Same*, Mus. rep. 51 (for 1897) 1899. 2:448-50.

—— —— *revised*. Mus. bul. 44. 1901. p.803, 806-7. *Same*, Mus. rep. 54 (for 1900) 1902. 3:803, 806-7.

Ries. Upper Helderberg Limestone of Ontario County. Mus. bul. 44. 1901. p.807-8. *Same*, Mus. rep. 54 (for 1900) 1902. 3:807-8.

Ries. Onondaga (Corniferous) Limestone of Orange County. Geol. rep. 15 (for 1895) 1897. p.403. *Same*, Mus. rep. 49 (for 1895) 1898. 2:403.

Ries. Upper Helderberg Limestones of Seneca County. Mus. bul. 44. 1901. p.318-19. *Same*, Mus. rep. 54 (for 1900) 1902. 3:818-19.

Ries. Onondaga Limestone of Ulster County. Geol. rep. 17 (for 1897) 1899. p.456. *Same*, Mus. rep. 51 (for 1897) 1899. 2:456.

—— —— *revised*. Mus. bul. 44. 1901. p.821-22. *Same*, Mus. rep. 54 (for 1900) 1902. 3:821-22.

Smock. Onondaga Limestone. Mus. bul. 3. 1888. p.22; 10. 1890. p.212-13.

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[a] First use of term.

Onondaga limestone (*continued*)

—— —— *revised* by Merrill. Mus. bul. 15. 1895. p.428. *Same*, Mus. rep. 48 (for 1894) 1895. 1:428 (2d paging).

—— —— *revised* by Merrill. Mus. bul. 19. 1898. p.202. *Same*, Mus. rep. 51 (for 1897) 1899. 1:202.

Smock. Quarries. Mus. bul. 3. 1888. p.94-134; 10. 1890. p.238-55.

—— —— *revised* by Merrill. Mus. bul. 15. 1895. p.432-47. *Same*, Mus. rep. 48 (for 1894) 1895. 1:432-47 (2d paging).

Vanuxem. Onondaga Limestone. Geol. rep. 3d dist. (for 1839) 1840. p.378. Geol. N. Y. pt3. 1842. p.132-38.

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[a] Term first used by Hall and Vanuxem in 1839.

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[a] Term first used by Hall and Vanuxem in 1839.

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[a] First use of term.

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v. 2 Organic Remains of Lower Middle Division of the New York System.
v. 3 Organic Remains of the Lower Helderberg Group and the Oriskany Sandstone.
v. 4 Fossil Brachiopoda of the Upper Helderberg, Hamilton, Portage and Chemung Groups.
v. 5 pt1 Lamellibranchiata 1. Monomyaria of the Upper Helderberg, Hamilton and Chemung Groups.
—— —— Lamellibranchiata 2. Dimyaria of the Upper Helderberg, Hamilton, Portage and Chemung Groups.
—— pt2 Gasteropoda Pteropoda and Cephalopoda of the Upper Helderberg, Hamilton, Portage and Chemung Groups.
v. 6 Corals and Bryozoa of the Lower and Upper Helderberg and Hamilton Groups.
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v. 8 pt1 Introduction to the Study of the Genera of the Paleozoic Brachiopoda.
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[a] First use of term.

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[a] First use of term.

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[a] First use of term.

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[a] First use of term.

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[a] First use of term.

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See also names of rock formations.

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[a] First use of term.

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[a] First use of term in original publication of this article. Science. 1899. new ser. 10:877.

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[a]**Salina group (Onondaga salt group).** Bishop. Salina Group of Erie County. Geol. rep. 15 (for 1895) 1897. p.311-12, 390. *Same*, Mus. rep. 49 (for 1895) 1898. 2:311-12, 390.

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Sarle. A New Eurypterid Fauna from the Base of the Salina of Western New York. Pal. rep. (for 1902). *In press.*

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Salina waterlime, *see* Waterlime.

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[a] Term introduced by Dana. Manual of Geology. *rev. ed.* 1864, p.246.
[b] First use of term.

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Preliminary geologic map of portions of Herkimer, Fulton, Montgomery, Saratoga and adjacent counties (uncolored) 28.5x16.5cm.

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Saratoga county (*continued*)

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Scorpion flies, *see* Neuropteroid insects.

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Map of Seneca co. (uncolored) 27.5x48.5cm.
Contains a bibliography.

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[a] First use of term.

Seneca county (*continued*)

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[a]Hall. Seneca Limestone in Seneca County. Geol. rep. 4th dist. (for 1838) 1839. p.293-95. Geol. N. Y. pt4. 1843. p.450-51.

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[a]Vanuxem. Seneca Limestone. Geol. rep. 3d dist. (for 1838) 1839. p.275-78; (for 1839) 1840. p.378-79. Geol. N. Y. pt3. 1842. p.144-45.

Vanuxem. Seneca Limestone in Madison County. Geol. N. Y. pt3. 1842. p.274.

Vanuxem. Seneca Limestone in Onondaga County. Geol. N. Y. pt3. 1842. p.284.

Vanuxem. Fossils. Geol. N. Y. pt3. 1842. p.144-45.

See also Corniferous limestone; Onondaga limestone; Upper Helderberg group.

Seneca oil, *see* Petroleum.

Senecan. [b]Clarke & Schuchert. Senecan. Mus. mem. 3. 1900. p.11. *Same*, Mus. rep. 53 (for 1899) 1901. 2:11.

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[a] Term used by Hall and Vanuxem in 1839.

[b] First use of term in original publication of this article. Science. 1899. new ser. 10:877.

Serpentine (*continued*)

Emmons. Serpentine. Geol. rep. 2d dist. (for 1837) 1838. p.205. Geol. N. Y. pt2. 1842. p.67-72. Ag. N. Y. 1846. 1:41.

Emmons. Serpentine Marble of Warren County. Geol. N. Y. pt2. 1842. p.176-77.

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Mather. Serpentine of Staten Island. Geol. rep. 1st dist. (for 1837) 1838. p.139.

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Merrill. Localities. Mus. bul. 15. 1895. p.582. *Same*, Mus. rep. 48 (for 1894) 1895. 1:582 (2d paging).

—— —— Mus. bul. 19. 1898. p.234. *Same*, Mus. rep. 51 (for 1897) 1899. 1:234.

Smock. Serpentine. Mus. bul. 3. 1888. p.14.

Vanuxem. Serpentine of Syracuse. Geol. rep. 3d dist. (for 1838) 1839. p.283-84.

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Whitlock. Serpentine. Mus. bul. 58. 1902. p.113.

Serpents, *see* Reptiles.

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See also Slates.

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See also Lower shaly beds; Upper shaly limestone.

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[a]Mather. Shawangunk Grit. Geol. rep. 1st dist. (for 1839) 1840. p.212, 246-55.

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See also Oneida conglomerate.

Shawangunk mountain. Darton. Shawangunk Mountain. Geol. rep. 13 (for 1893) 1894. p.346-58. *Same*, Mus. rep. 47 (for 1893) 1894. p.540-52.

Shell grit, *see* Schoharie grit.

Shell limerock (Eaton), *see* Onondaga salt group.

Shell marl, *see* Marl.

Shell money, *see* Wampum.

Shells, *see* Mollusca.

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[a] First use of term.

Sherburne formation *(continued)*

[a]Vanuxem. Sherburne Flagstone. Geol. rep. 3d dist. (for 1839) 1840. p.381.

See also Erie division; Hamilton group; Portage group.

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Sienite, *see* Syenite.

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Sillimanite. Beck. Sillimanite. Min. N. Y. 1842. p.454.

Whitlock, Sillimanite. Mus. bul. 58. 1902. p.103.

[b]**Silurian.** Conrad. Organic Remains of Lower Transition or Silurian System. Pal. rep. (for 1837) 1838. p.107-19; (for 1838) 1839. p.57-66; (for 1839) 1840. p.200-7; (for 1840) 1841. p.25-41.

Hall. Table of Rocks. Geol. rep. 4th dist. (for 1839) 1840. p.452-53.

White. Report on the Relations of the Ordovician and Eo-Silurian Rocks in Portions of Herkimer, Oneida and Lewis Counties. Mus. rep. 51 (for 1897) 1899. 1:r21-54. pl. (phot.) 2 maps.

Map of the vicinity of Frankfort hill, 31.5x16.5cm.
Map of the Precambrian border in Oneida and Lewis counties, 49.5x16cm.

See also New York series; Lower Silurian; Ontaric; Upper Silurian; *also* names of subdivisions.

Siluric (Ontaric). Clarke & Schuchert. Siluric. *See* New York series.

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Mather. Silver Ores. Geol. N. Y. pt1. 1843. p.500-9.

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Skaneateles lake. Geddes. Skaneateles Lake. Ag. Soc. Trans. 19 (for 1859) 1860. p.260.

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Skaneateles shale. [a]Vanuxem. Skaneateles Shales. Geol. rep. 3d dist. (for 1839) 1840. p.380.

See also Erie division; Hamilton group.

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[a] First use of term.

[b] For papers discussing line of division between Silurian and Devonian, *see* under Devonian.

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Smock. Slate Quarries. Mus. bul. 3. 1888. p.23-24, 135-43, 146; 10. 1890. p.279-81.

—— —— *revised* by Merrill. Mus. bul. 15. 1895. p.421-23. *Same*, Mus. rep. 48 (for 1894) 1895. 1:421-23 (2d paging).

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See also Magnesian slate; Mica slate; Roofing slates; Shales.

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Whitlock. Smaltite. Mus. bul. 58. 1902. p.59.

Smithsonite. Whitlock. Smithsonite. Mus. bul. 58. 1902. p.83.

Snails, *see* Gastropoda.

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See also Talc.

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Sodium iodide. Beck. Hydriodate of Soda. Min. rep. (for 1838) 1839. p.17. Min. N. Y. 1842. p.200.

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For contents, *see* List of publications, p.269-70.

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Sparry limestone. Emmons. Sparry Limestone. Geol. N. Y. pt2. 1842. p.151-52. Ag. N. Y. 1846. 1:72-74.

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Spathic iron, *see* Siderite.

Specular iron ore, *see* Hematite.

Sphalerite. Beck. Zinc Blende. Min. N. Y. 1842. p.52, 408-11. Mus. rep. 3 *rev. ed.* (for 1849) 1850. p.149.

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Sphene, *see* Titanite.

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Hunt. Spinel. Mus. rep. 21 (for 1867) 1871. p.85.

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Hall. Descriptions of the Species of Fossil Reticulate Sponges constituting the Family Dictyospongidae. Mus. rep. 35 (for 1881) 1884. p.465-81. pl.18-21.

Hall. Note on the Occurrence of the Dictyospongidae in the State of New York. Geol. rep. 6 (for 1886) 1887. p.36-38. map.

Map showing geographic distribution of Dictyospongidae in Steuben and adjoining counties, 33x26cm.

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Hall. Springs. Geol. N. Y. pt4. 1843. p.44, 99, 179, 194, 239, 260.

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Hall. Springs of Niagara County. Geol. rep. 4th dist. (for 1837) 1838. p.365. Geol. N. Y. pt4. 1843. p.445-46.

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Horsford. Springs of Cattaraugus County. Geol. rep. 4th dist. (for 1839) 1840. p.464-65.

Lincoln. Springs of Seneca County. Geol. rep. 14 (for 1894) 1895. p.82-83. *Same*, Mus. rep. 48 (for 1894) 1895. 2:82-83.

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[a]Clarke. Stafford Limestone. Geol. rep. 8 (for 1888) 1889. p.60. *Same*, Mus. rep. 42 (for 1888) 1889. p.406.

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Emmons. Steatite or Soapstone of St Lawrence County. Geol. N. Y. pt2. 1842. p.352-53.

Mather. Steatite of New York and Putnam Counties. Geol. rep. 1st dist. (for 1838) 1839. p.101.

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[a] First use of term.

Steatite (*continued*)

Mather. Steatite in Putnam and Dutchess Counties. Geol. N. Y. pt1. 1843. p.487.

See also Talc.

Steatitic-pyroxene, *see* Rensselaerite.

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Map of Steuben county (uncolored) 43.5x42.5cm.

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See also Paving brick.

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[a] First use of term.

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Mather. Sienite in the Highlands. Geol. N. Y. pt1. 1843. p.536-37.

Smock. Syenite. Mus. bul. 3. 1888. p.10-12; 10. 1890. p.204-5.

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Syracuse. Smock. Stone Construction in. Mus. bul. 10. 1890. p.338-41.

Tabular spar, *see* Wollastonite.

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[a]Emmons. Taconic System. Geol. N. Y. pt2. 1842. p.135-64. Ag. N. Y. 1846. 1:45-112.

Emmons. Catalogue of the Specimens arranged by Prof. E. Emmons, as Representatives of the Taconic System, at the Close of the Geological Survey of New York in 1843. Geol. rep. 8 (for 1888) 1889. p.95-98. *Same*, Mus. rep. 42 (for 1888) 1889. p.441-44.

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Mather. Taconic System. Geol. N. Y. pt1. 1843. p.422-38.

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See also Hudson river group.

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Merrill. Talc. Mus. bul. 15. 1895. p.556. *Same*, Mus. rep. 48 (for 1894) 1895. 1:556 (2d paging).

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[a]Mather. Tentaculite Limestone. Geol. rep. 1st dist. (for 1839) 1840. p.238. Geol. N. Y. pt1. 1843. p.326, 350.

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—— —— *revised* by Merrill. Mus. bul. 15. 1895. p.427. *Same*, Mus. rep. 48 (for 1894) 1895. 1:427 (2d paging).

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See also Manlius limestone.

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[a] First use of term.

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Ries. Terra Cotta. Mus. bul. 12. 1895. p.235-37. Mus. rep. 48 (for 1894) 1895. 1:235-37 (2d paging).

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Emmons. Tertiary of Essex County. Geol. N. Y. pt2. 1842. p.283-84.

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Thysanura. Additions to Collection. Ent. rep. 6, p.190; 10, p.513; 13, p.375; 15, p.619; 17, p.824.

For dates of reports, *see* List of publications, p.264.

Tile. Lincoln. Tile Manufacture of Seneca County. Geol. rep. 14 (for 1894) 1895. p.105-11. *Same,* Mus. rep. 48 (for 1894) 1895. 2:105-11.

See also Decorative tile; Drain tile; Floor tile; Roofing tile.

Till. Lincoln. Till in Seneca County. Geol. rep. 14 (for 1894) 1895. p.78-79. *Same,* Mus. rep. 48 (for 1894) 1895. 2:78-79.

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Tioga county. Beck. Mineralogy. Min. rep. (for 1839) 1840. p.100.

Bishop. Oil and Gas. Geol. rep. 19 (for 1899) 1901. p.r133. *Same,* Mus. rep. 53 (for 1899) 1901. 1:r133.

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Fenno. Plants of the Susquehanna Valley and Adjacent Hills of Tioga County. Bot. rep. (for 1902). *In press.*

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Smock. Building Stone Quarries. Mus. bul. 3. 1888. p.85; 10. 1890. p.275-76.

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Vanuxem. Tioga County. Geol. N. Y. pt3. 1842. p.296-98.

Titaniferous iron ore, *see* Ilmenite.

Titaniferous magnetite, *see* Magnetite.

Titanite. Beck. Sphene. Min. N. Y. 1842. p.433-36. Mus. rep. 3 *rev. ed.* (for 1849) 1850. p.150-51.

Hunt. Sphene. Mus. rep. 21 (for 1867) 1871. p.86.

Titanite (*continued*)

Nason. Sphene or Titanite. Mus. bul. 4. 1888. p.7-8, 15.

Whitlock. Titanite. Mus. bul. 58. 1902. p.115-16.

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Clarke. Geological Map showing Distribution of Portage Group. Geol. rep. 15 (for 1895) 1897. facing p.60. *Same*, Mus. rep. 49 (for 1895) 1898. v.2, facing p.60.

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Hall. Tompkins. Geol. rep. 4th dist. (for 1838) 1839. p.317-21. Geol. N. Y. pt4. 1843. p.475-77.

Ries. Brick Yards. Mus. bul. 12. 1895. p.210-11, 250. *Same*, Mus. rep. 48 (for 1894) 1895. 1:210-11, 250 (2d paging).

—— —— Mus. bul. 35. 1900. p.728-31. *Same*, Mus. rep. 54 (for 1900) 1902. 2:728-31.

Ries. Limestone Formations. Mus. bul. 44. 1901. p.819-20. *Same*, Mus. rep. 54 (for 1900) 1902. 3:819-20.

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Vanuxem. Tompkins County. Geol. N. Y. pt3. 1842. p.298-99.

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Whitlock. Topaz. Mus. bul. 58. 1902. p.102-3.

Topographic sheets. Merrill. Topographic Sheets. Geol. rep. 19 (for 1899) 1901. p.r14-15. map. *Same*, Mus. rep. 53 (for 1899) 1901. 1:r14-15. map.

Map of New York showing atlas sheets surveyed by the United States Geological Survey in cooperation with the state engineer and surveyor. Jan. 1, 1900 (uncolored) 22.5x17.5cm.

See also Albion quadrangle; Amsterdam quadrangle; Brockport quadrangle; Brooklyn quadrangle; Canandaigua quadrangle; Harlem quadrangle; Hempstead quadrangle; Little Falls quadrangle; Medina quadrangle; Mooers quadrangle; Naples quadrangle; Olean quadrangle; Oyster Bay quadrangle; *also under names of counties.*

Topography, *see* Physical geography.

Torbernite. Whitlock. Torbernite. Mus. bul. 58. 1902. p.21.

Tortoises, *see* Reptiles.

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Hunt. Tourmaline. Mus. rep. 21 (for 1867) 1871. p.83.

Nason. Newcomb Tourmalines. Mus. bul. 4. 1888. p.5-10.

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Tracheata (paleozoic). Clarke. Type Specimens in New York State Museum. Mus. bul. 65. *In press.*

Transition argillite. Horton. Transition Argillite. Geol. rep. 1st dist. (for 1838) 1839. p.141-45.

See also Hudson river group; Utica shale.

Transition limerock (Eaton), *see* Black river limestone.

Transition sandrock (Eaton), *see* Calciferous sandrock.

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Conrad. Table of Formations, showing the Order of Superposition and some Characteristic Fossils of the Transition Strata. Pal. rep. (for 1838) 1839. p.62-63.

Emmons. Use of Term. Geol. N. Y. pt2. 1842. p.21-22.

Vanuxem. Advantages of Study in United States. Geol. rep. 4th dist. (for 1836) 1837. p.204-9 (ed.2, p.206-11).

See also New York series.

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Emmons. Trap; Greenstone Trap. Geol. N. Y. pt2. 1842. p.82-84.

Emmons. Trap, Porphyry or Volcanic Rocks of Essex County. Geol. N. Y. pt2. 1842. p.263-65.

Emmons. Trap or Igneous Rocks of Warren County. Geol. N. Y. pt2. 1842. p.184-85.

Hall. Trappean Rocks. Pal. N. Y. 1859. 3:78-80.

Kümmel. Trap Rocks of Rockland County. Geol. rep. 18 (for 1898) 1899. p.22-42. *Same,* Mus. rep. 52 (for 1898) 1900. 2:22-42.

Leeds. Lithology of the Adirondacks. Mus. rep. 30 (for 1876) 1878. p.79-109.

Mather. Trap Rock Greenstone. Geol. rep. 1st dist. (for 1837) 1838. p.140.

Mather. Trap Rocks of Rockland and Orange Counties. Geol. rep. 1st dist. (for 1838) 1839. p.122-23.

Mather. Origin of Trap Rocks. Geol. N. Y. pt1. 1843. p.283.

Merrill. Road Materials. Mus. bul. 17. 1897. p.104. *Same,* Mus. rep. 50 (for 1896) 1898. 1:104 (2d paging).

—— —— Mus. bul. 19. 1898. p.204. *Same.* Mus. rep. 51 (for 1897) 1899. 1:204.

Smock. Trap-rock. Mus. bul. 3. 1888. p.13; 10. 1890. p.205, 206-7.

—— —— *revised* by Merrill. Mus. bul. 15. 1895. p.380. *Same,* Mus. rep. 48 (for 1894) 1895. 1:380 (2d paging).

—— —— *revised* by Merrill. Mus. bul. 19. 1898. p.184. *Same,* Mus. rep. 51 (for 1897) 1899. 1:184.

Woodworth. The Northumberland Volcanic Plug; with Notes on the Petrography and Age of the Rock, by H. R. Cushing. Geol. rep. 21 (for 1901). *In press.*

See also Crystalline rocks; Dikes.

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Trees, *see* Forest trees; Fruit trees; Shade trees; Spruces.

Tremolite. Merrill. Tremolite. Mus. bul. 19. 1898. p.121. *Same,* Mus. rep. 51 (for 1897) 1899. 1:121.

Nason. Tremolite. Mus. bul. 4. 1888. p.8.

See also Amphibole.

Trench inclosures. Ground-plans and Dimensions of Several Trench Enclosures in Western New-York. Mus. rep. 2 (for 1848) 1849. 5pl.

Hough. Ancient Remains of Art in Jefferson and St Lawrence Counties. Mus. rep. 3 *rev. ed.* (for 1849) 1850. p.99-105. 5pl.; 4 (for 1850) 1851. p.103-9. 5pl.

Trenton group. Merrill. Trenton Group. Mus. bul. 19. 1898. p.147-49. *Same,* Mus. rep. 51 (for 1897) 1899. 1:147-49.

Trenton group (*continued*)

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[a] Term first used by Conrad and Vanuxem in 1838.

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[a] Term first used by Conrad and Vanuxem in 1838.

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Tully limestone (*continued*)

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[a] First use of term.

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[a] First use of term in original publication of this article. Science. 1899. new ser. 10:877.

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COMPILED UNDER THE DIRECTION OF

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- Rhynchora. Geol. rep. 13. 1894. 2:894. Mus. rep. 47. 1894. p.1088.
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